621.5 AU1051E383

ISSUED EVERY MONDAY AT 450 W. FORT ST., DETROIT 26, MICHIGAN. ESTABLISHED 1926.

AIR CONDITIONING & REFRIGERATION News

THE NEWSPAPER OF THE INDUSTRY

Vol. 73, No. 10, Se... November 8, 1954 Subscription Price, $6 Per Year

Reentered ... second class ... October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879.
Trade Mark Registered U. S. Patent Office. Copyright 1954, by Business News Publishing Co.

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

Stories of the Week
Gags of the Week
Verse of the Week
Lines to Remember
Last Laugh
Post Scriptum
Out of Our Mailbag

Stories of the Week

"Some of the neighbors are taking her part. Others seem to think he's getting the worst of it."

Interrupted Mary:

"Are there any eccentrics minding their own business?"

Fancy-broke, an exhibitionistic freak from a circus tried to pull "a fast one" in obtaining credit.

"I'm the two-headed man, as you can see. Can I charge these shirts?"

The clerk looked at those twinheads doubtfully.

"Do you have any further identification?"

Took Zeke and his mule half a day to tow a stalled auto to the nearest garage.

"How much did you charge that city feller?" Mrs. Zeke wanted to know.

"Fifty cents."

"Zeke," she lowered, "next time you pull. Let the mule handle the business end."

Mrs. Divorcee obtained custody of 12-year-old Johnny. Within a few months she remarried.

"Do you like your new stepfather?" the lad's father probed during visiting hours.

"Yeah. He tries to be nice to me. Takes me swimming every Saturday. He rows me out to the middle of the lake, and I swim back."

"That's thoughtful of him."

"Yeah. The only tough part of it is getting out of the sack."

"Really, Dr. Kuryus, I don't think I need a *complete* physical examination," protested a young woman. "Only six months ago your associate practitioner examined me from head to toe, and said I was in perfect shape."

"That's what he told me," oiled Doc Kuryus, "but his observations need confirming."

Gags of the Week

When a man sees red he can't see much of anything else.

Try the Stock Market cocktail. Down three and you'll have a seat on the curb.

Some speakers drive home facts, others drive home their audiences. —RAY D. EVERSON.

Fairly soon the United States may have more Communists in prison than any nation in the world—except Russia.

Verse of the Week

"Since life is short, we need to
make it broad;
Since life is brief, we need to make
it bright;
Then keep the old king's motto
well in sight,
And let its meaning permeate each
day
Whatever comes, 'This too shall
pass away.' "

ELLA WHEELER WILCOX

(Concluded on Page 8, Col. 1)

Signs Point To Business Pick-Up

Sept. Durable Goods Orders Best In Some Time; Many Industry Firms Report Increase In Orders

DETROIT — How's business these days? There's some good evidence around that it has been pretty good for the last couple of months, and that it continues to get better.

First, let's take a look at some of the over-all concrete figures. The U. S. Dept. of Commerce reports that new orders for durable goods in September were at the highest level in more than a year —up some 16% in two months. They totaled $11.3 billion in September, compared with $10 billion in August and $9.7 billion in July, and $10.1 billion in September of 1953.

"This is definitely a bullish sign for the economic outlook," declared one Department official.

For the week ending Oct. 23 department store sales throughout the country were 9% ahead of sales in the like period of last year, with gains running as high as 31% in Indianapolis, and 22% in Richmond and Atlanta.

Instalment credit buying by consumers increased in September for the sixth straight month.

What about the refrigeration and air conditioning and appliance fields specifically?

Carrier Corp. officials say that they have been pleasantly surprised by the way in which sales of year-round residential air conditioning systems, particularly in new home projects, have continued to move along well after "the season" for such sales is supposed to be over.

A spurt in retail sales of home freezers has brought about a larger production build-up by Amana Refrigeration, Inc., which makes claim to be the largest manufacturer of food freezers.

Third-quarter sales of the Norge Div. of Borg-Warner Corp. in-

(Concluded on Page 25, Col. 3)

Westinghouse Adds 3 New Room Units, Announces Prices

SPRINGFIELD, Mass. — Westinghouse Electric Appliance Div. has announced prices on its new 1955 models of room air conditioners as well as the addition of three new models to the line.

Prices for the 1955 models reportedly average $30 to $60 lower than those on comparable models in 1954.

In making the introduction, H. R. Bryant, manager of room air conditioners for Westinghouse, said:

"The new additions to our line this year are a reverse-cycle model to heat in winter and cool

(Concluded on Page 4, Col. 4)

Acme Shows New Lines At Regional Meetings

JACKSON, Mich.—New and expanded lines of all-metal cooling towers and evaporative condensers were featured at regional sales meetings conducted recently in New York City, St. Louis, and Las Vegas, Nev., for the engineering sales representatives of Acme Industries, Inc. here.

Carl W. Millsom, Acme's vice president in charge of field sales

(Concluded on Back Page, Col. 5)

Tyler Announces Five Executive Promotions

NILES, Mich.—Major promotions affecting five executives have been announced by Robert L. Tyler, president of Tyler Refrigeration Corp.

Promoted were Robert L. Tyler, Jr. to the newly-created position of assistant to the president; Sam D. VanderWeg, to director of operations; W. L. Gray, to director of industrial relations; Ethan J. Mittan, to assistant director of operations; and Dorwin Starke, to

(Concluded on Page 25, Col. 3)

Switzer, Anderson, L. W. Smith in New Posts at Frigidaire

DAYTON — Four major executive personnel promotions in the Sales Dept. of Frigidaire Div. of General Motors have been announced by Mason M. Roberts, General Motors vice president and Frigidaire general manager.

W. H. Anderson, formerly appliance sales manager of Frigidaire's Los Angeles branch, has been appointed division assistant general sales manager.

W. F. Switzer, commercial and air conditioning sales manager, will take over the newly-created position of merchandising manager of appliance sales, and L. W. Smith, Dayton branch manager, will succeed Switzer.

R. L. Demarse, administrative assistant to the general manager, has been named to succeed Smith as manager of the Dayton branch.

(Concluded on Page 25, Col. 2)

CRMA Meeting Set for Atlanta Nov. 18-19

CHICAGO — The Commercial Refrigerator Manufacturers Association will hold its annual fall meeting and fourth annual plant tour and production conference on Nov. 18 and 19 in Atlanta, Paul H. Sullivan, executive secretary, announced recently.

The fall meeting will be staged in the Henry Grady hotel on Thursday, Nov. 18. The next day, an estimated 100 production and engineering executive will make a process-by-process inspection of the Warren Co. plant and then discuss the company's techniques and exchange information on the industry's production methods.

Program for the fall meeting will include a review of 1954 sales progress, discussion of pertinent sales and management problems, and individual forecasts of the

(Concluded on Page 25, Col. 1)

F. L. Jacobs Buys Mills Industries, SelMix Dispensers

DETROIT — F. L. Jacobs Co., Detroit automotive parts manufacturer, has taken two important steps in its program of expansion and diversification with the purchase of Mills Industries, Inc., of Chicago, and SelMix Dispensers, Inc., of Long Island City, N. Y.

This was announced by Thomas J. Riggs, Jr., Jacobs' president. He said the purchase would enable his company to offer a wide and diversified line of equipment in the vending and dispensing industries.

Riggs explained that while both companies will be operated as independent subsidiaries, component parts for the vending and dispensing equipment will be produced in Jacobs' plants in Detroit, Grand Rapids, and Traverse City, Mich., and Danville, Ill.

"The purchase will provide both firms with additional capital and also will give their customers the advantage of the engineering and manufacturing know-how of our company, which has a long-time record as a large and important supplier to the automotive industry," Riggs added.

(Concluded on Page 25, Col. 1)

Mitchell Claims Fast Cool Down For '55 Models

CHICAGO—Introducing its 1955 room air conditioner line, Mitchell Mfg. Co. announced a "Super High-Capacity Chassis" series of units "capable of cooling a room in five minutes and which can be installed in less than five minutes."

The company also announced that units with louvered panels adjustable to 20 different directions are being introduced in its new "Bel-Aire" series.

In addition, E. A. Tracey, vice president, revealed details of a big "Early-Bird" 1955 spring promotion offering vacation trips to dealers, and a promotion under which an air conditioner will be given to one out of every 20 consumers who buy a 1955 Mitchell unit during February and who send in a completed form.

The Super High-Capacity Chassis series consists of three models featuring a new refrigeration circuit in which air is cooled and filtered twice.

The new Mitchell will drop the

(Concluded on Page 4, Col. 1)

Two-Tone Effect Offered In 1955 Typhoon Units

NEW YORK CITY—A "Decorator Color"—a neutral shade of gray in a two-tone effect—has been added to the 1955 line of Typhoon air conditioning units, the Typhoon Air Conditioning Co., Inc. announced recently when presenting the line to metropolitan New York dealers.

Maurice Firestone, New York regional sales director, declared, "The purchaser of air conditioning

(Concluded on Page 25, Col. 4)

Freezer Section On Bottom In Deepfreeze Line

Freezers Have Innovations For Food Organizing; Color Theme Is Feature

CHICAGO—A new "Duplex" line of three freezer-refrigerators highlights 1955-model products by Deepfreeze Home Appliances.

The Duplex design provides a freezer section of about 4 cu. ft. and a "space-saving" 7.3-cu. ft. refrigerator section. The refrigerator is at the top "for easy access."

Deepfreeze is also presenting a line of new upright and chest freezers which "offer an assortment of food-organizing innovations." Uprights gain new prominence with a choice of four models (compared with two in 1954). This equals the number of chest freezers in the 1955 line.

A new color theme of coppertone, coral, and cream is a feature of the freezer-refrigerators and freezers. Copper is used as an accent both outside, against a white finish, and inside, against cream-colored background and harmonizing coral accessories.

Room air conditioners offering three-position mounting, colored pushbutton controls, and a washable electrostatic filter are also among new Deepfreeze products. There are five models in this line.

In addition, the company is introducing four conventional-type refrigerators, four electric range models, and electric water heaters.

Each section of the freezer-re-

(Concluded on Back Page, Col. 1)

Engineering Groups Hit Legal Snarls In Name Changing

NEW YORK CITY—Efforts of two major engineering societies in the industry to change their name to include "air conditioning" in the official designation seem to be snarled up in some legal entanglements.

Members of the American Society of Refrigerating Engineers are now balloting, by mail, on a proposal to change the name of the society to the American Society of Refrigerating and Air Conditioning Engineers. A majority vote of the *entire* membership is needed at the time the votes are counted, Nov. 27.

At the same time the American Society of Heating and Ventilating Engineers has made a move to change its name to the American Society of Heating and Air Conditioning Engineers, Inc.

As part of this move, the organization had the term "air conditioning" reserved for its exclu-

(Concluded on Page 25, Col. 2)

IN THIS ISSUE

Basic Requirements of Auto Air Conditioning 6
Apartment House Freezer Rental Plan 10
This Freezer-Food Plan Really Works 12
Roof-Top Packaged Air Conditioners Install Outside on One-Story Bldgs. 13
Fort Worth Residential Air Conditioning Survey..... 16
Observation Post—What Constitutes Good Packaging?..18
Cooling Tower Design and Application 20
What Was New at the Dairy Exposition 22
Current Literature 15
Refrigeration Problems—The Air In Which We Live..... 24
Patents 26
Government Contracts 26

XUM

Starts to DRY Right Away!

Drying action starts very quickly when you use Thawzone to clear up a moisture condition.

Thawzone actually destroys moisture—it is not a mere antifreeze. The moisture cannot come back. You know the unit will not freeze up again unless more moisture enters the system.

Use in "Freon" or methyl units. Only ⅛ oz. of Thawzone per lb. of refrigerant needed. At all wholesalers.

THAWZONE®

THE LIQUID DRIER

MOTOR BASE ADAPTERS Sell Many Other Items

Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No rotor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc.

SIZES FOR ⅙ to 3 H.P. Inclusive

Engineering Research Associates, Inc.

3475 East Nine-Mile Road

Hazel Park, Michigan

Calif. Appliance Assn. Spearheads Drive To License Dealers Under State Code

LOS ANGELES—The recently-formed Appliance Profession Association of California, an all-retailer organization with more than 100 members, is spearheading a drive for dealer licensing under the state professional code.

The association has approved a bill for possible submission to the legislature.

Many appliance dealers believe that such legislation might solve a lot of their problems, it was reported. Explaining why there is a need for licensing, Roy Rick, APA director, stated:

"The average appliance dealer, or perhaps I should say 90% of the appliance dealers, in southern California who go into a customer's home and install any major appliance are in violation of the law and liable to citation on any or all of several counts."

Rick pointed out that the are 38 different contractor license classifications, including plumbers, electricians, contractors, etc., under California's Finished Products Law.

The law exempts appliances as such. However, due to the dangers of cross connections, for example, only licensed persons are authorized to offer service in the home, for health and safety reasons, he noted.

To get around the law, many dealers have become licensed as plumbers, electricians, etc., it was said. But, Rick declared, "they misrepresented themselves because the law specifically states that the occupation for which they are being licensed must be their major occupation."

The items which would come under the installation and servicing jurisdiction of the domestic appliance profession are described in the APA's proposed bill as follows:

"Domestic appliance means any device or apparatus designed for use in or about a home or residence where installation, adjustment, maintenance, service, or repair thereof requires the performance of services for which a contractor's license would be required under Chapter 9 of this division."

Recognition of appliance professionals would mean, for one thing, that city safety commissioners would automatically depend on them in all matters pertaining to domestic appliances, in Rick's opinion.

Because licensing would differentiate between merchants and appliance professionals, it would also be a great help in the battle against discount houses.

"It would make it possible for the professional appliance man not only to merchandise appliances but also to demand a fair and just price for services rendered," Rick stated. "The merchant could continue to sell but he would have to contract for the services of a skilled, licensed man to install and service the item."

Rick said provisions of the Finished Products Act would prevent discount dealers from getting a license either in their own name or that of their appliance manager.

Licensing would also end such manufacturer practices as direct shipments to homeowners and dumping of merchandise on distributors and/or dealers, Rick believes.

As another result of licensing, he said, refrigerators, ranges, washers, and dishwashers would again be called "appliances" instead of "footballs."

Toledo Merchants Ask Legal Protection from 'Hit-Run' Operators

TOLEDO — City Council has been asked to put the pressure on what one councilman described as "hit-and-run retailers who take over a million dollars a year out of Toledo."

Vice Mayor Ned Skeldon introduced an ordinance fixing an occupational tax of $1,000 on temporary stores in the city. It would replace a statute now on the books which provides for a $150 fee by such operators. The present law has never been enforced, however.

Skeldon said the ordinance is aimed at protection of permanent merchants. He said that if it is passed, he will insist on its enforcement.

In addition to increasing the tax, the proposed law defines any operation under 120 days as temporary.

Lau Blower Purchases Mimms Co., Louisville

DAYTON—Lau Blower Co. has purchased E. N. Mimms Co., Louisville, Ky., E. B. Lau, president of the firm, has announced.

In making the purchase, the Dayton fan manufacturer has bought the entire inventory, tools, dies, and other equipment of the Mimms firm.

Lau said his firm bought the Mimms company because of its desire to enter the floor circulator and pedestal fan business. These products were made by the Louisville firm.

For next season, he said, Lau will use the Mimms products under the Lau name.

ARI Product Section

Group Formed To Include Factory-Assembled Cooling Tower Mfrs.

ST. LOUIS—Formation of an Air-Conditioning & Refrigeration Institute (ARI) Product Section that will embrace manufacturers of factory-assembled cooling towers was completed here last week.

Some 20-odd firms have banded together to form this group of firms which is primarily concerned with the manufacture of factory-assembled cooling towers.

There has been in existence for some time the Cooling Tower Institute, which however embraces primarily firms which produce field-assembled cooling tower equipment.

Hormel Urges Packers To Push Pre-Packaged Meats

CHICAGO—H. H. Corey, president of Geo. A. Hormel Co. and chairman of the American Meat Institute, recently called for acceleration of packer pre-packaged meat as a means of lifting packer profits above the "microscopic" level.

Addressing the AMI at its 49th annual meeting here, Corey urged packers to merchandise beef, pork, lamb, and veal in consumer packages rather than in primal cuts carrying no packer brand identification.

He said the self-service meat case has given the packer an opportunity for brand identification and for meat to become less vulnerable to price fluctuations.

Cory pointed out that the meat industry is the only one remaining which still depends on the pioneer method of bulk sales of products. The meat packing industry must undergo a transition similar to that of the flour milling industry when it stopped selling flour by the barrel, he said.

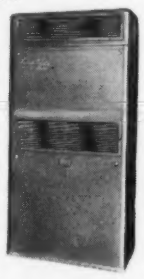
Profit margins of flour millers were critically low so long as they sold their products in bulk lots, Cory noted. Now, he stated, they make a respectable profit by merchandising flour in 2, 5, and 10-lb. branded packages supported by consistent advertising.

Corey said development of packer brand identification of prepackaged meat would stabilize meat prices over the year and enable the retailer to do the job he knows best—selling and merchandising. Another result of price stabilization, he indicated, would be steadier buying of meat products by the consumer.

Curtis Air Conditioning and Refrigeration

Offers You MORE OPPORTUNITIES For Sales and Profit

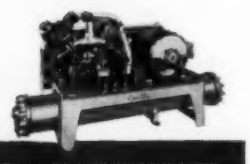
Efficient Room Air Conditioners

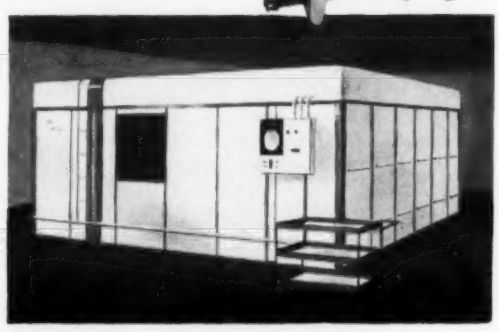


2, 3, 5, 7½, and 10-ton Packaged Units

COOL JUST A ROOM OR TWO . . .

Condensing Units— 15 through 80 tons

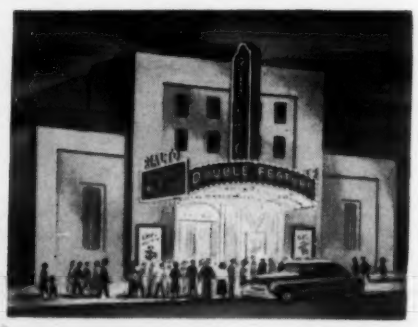




CONTROLLED COOLING FOR PROCESSING . . .

OR COOL AN ENTIRE BUILDING

Residential Combination Heating-Cooling Units

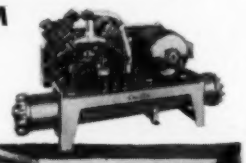


Evaporative Condensers and Cooling Towers

To see if you qualify for a direct factory franchise, write us on your company letterhead.

OR REFRIGERATE AN ENTIRE STORAGE ROOM

Condensing Units— 15 through 80 tons



Go All the Way with Curtis

the company that gives you everything you need to do practically any refrigerating or air conditioning job. Curtis *quality* is your assurance that those jobs will be Right—that customers will be completely satisfied.
And with Curtis, you never work *alone*. National advertising in *Saturday Evening Post, Time, Newsweek* and other important publications helps sell Curtis to prospects near you.

1854 100 years 1954

OF SUCCESSFUL MANUFACTURING EXPERIENCE

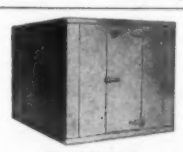
Curtis REFRIGERATING MACHINE DIVISION

of Curtis Manufacturing Company

1912 Kienlen Avenue • St. Louis 20, Missouri

808

Direct Draw Refrigerated Faucets



Metal Walk-In Cooler

Cubemaker

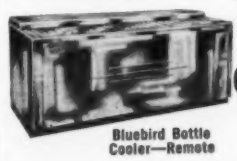
Upright Low Temperature Freezer

SELL LA CROSSE AND BE SURE... OF DESIGN OF ECONOMY OF SALEABILITY

Reach-In Cooler

La Crosse Self-Contained Bottle Cooler

Supreme Milk or Bottle Cooler



Bluebird Bottle Cooler—Remote

Drainboard

WRITE TODAY - FOR COMPLETE INFORMATION.

LA CROSSE COOLER COMPANY

Factory and Gen'l Offices: 3000 Losey Blvd., So., La Crosse, Wis.

Export Office: 80 Broad St., New York City. Cable Address: Eximport.

Unarco Bows New Lines In Seminars In 5 Cities

CHICAGO — A series of "shirt sleeve" seminars are being held by the Union Asbestos & Rubber Co.'s Heating and Cooling Div., it is announced by Chester S. Stackpole, general sales manager. The opening session was held on Oct. 25 at the Adolphus hotel in Dallas.

The seminars, Stackpole said, are being held in five key cities throughout the United States for the company's 56 sales representatives. He added:

"Our meetings are on a completely informal basis. At each meeting we give our representatives a preview of Unarco's newly designed and engineered 1955 line of heating and cooling equipment.

"At the same time we discuss new models in detail and our market methods. We also outline our new finance plan for air conditioning equipment—a plan we think is unique in the industry and which will give Unarco a considerable edge over its competitors."

Stackpole said that following the Dallas meeting Oct. 25 and 26, seminars were held at the Fairmont hotel, San Francisco, Oct. 27 and 28; the Biltmore hotel, Atlanta, Nov. 1 and 2; and the Commodore hotel, New York City, Nov. 3 and 4. The final sessions will be held at the Conrad Hilton hotel, Chicago, Nov. 11 and 12.

Unarco officials, in addition to Stackpole, who are attending the meetings, include his assistant, Peter B. Colwin, R. M. Anderson, sales manager of the cooling division, and W. K. Smith, sales manager of the heating division.

In addition to extensive design changes in the 1955 line, Stackpole pointed out, Unarco is introducing several completely new products.

True Mfg. In New Factory; it's 4th Move In 8 Years

ST. LOUIS—True Mfg. Co. announced recently that it has moved to its own new ultra-modern factory at 9500 True Dr., St. Louis 14. This was the fourth time in eight years the company has had to move to larger quarters, it was noted. The company's new telephone number is Harrison 7-2202.

PLENTY FOR FREE

For "easy-to-get" product information . . . use coupon on "What's New" page.

Use Key No. for fastest service.

Yates-American Machine Announces Promotions, Quarterly Dividend

BELOIT, Wis. — Directors of Yates-American Machine Co. recently elected E. J. Dalton, president, as chairman of the board and advanced J. J. Gallagher, a vice president, to the presidency.

In other changes, A. B. Loft, previously secretary and treasurer, was named vice president and secretary; C. M. Stokes was moved up from assistant secretary to treasurer; and Roy Hanson, Jr., was appointed assistant secretary. Roger Birdsell, a vice president, was elected a director at the annual stockholders' meeting.

The board voted a quarterly dividend of 25 cents a share on the capital stock, payable Jan. 3 to stock of record Dec. 15.

To Cool Bottling Room

MEMPHIS—Memphis Coca-Cola Bottling Co. in early spring will start construction of a new million-dollar plant, the bottling room of which will be fully air conditioned.

Greensboro Ordinance Amended To Allow Air Humidifying In Mills

GREENSBORO, N. C. — City Council, seeking to avert a possible layoff of 1,300 Burlington Mills Corp. employes, recently amended its air conditioning ordinance to permit air humidifying of textile mills.

The ordinance banned all city filtered water-using air conditioning systems.

Officials pointed out that the use of humidifying devices was granted on the condition—a condition already met by Bur-Mil—that such manufacturing firms reduce city water consumption by 25%.

Bur-Mil executives told councilmen they have cut water consumption by 30% and are using only 37,000 gals. daily in their manufacturing processes in three plants employing 3,000 persons.

They are developing a well water source producing 70,000 gals. a day. They said they would use the water to balance the amount of city water used in the humidifying operations.

Construction Continued To Set Records In Sept., According to Govt. Figures

WASHINGTON, D. C. — New construction continued to set records during September and new housing starts continued to boom during August, figures released by government agencies recently indicate.

The Departments of Commerce and Labor report that new construction of all kinds during September cost $3.6 billion, 8% higher than in the same month last year. For the first nine months construction spending hit a new high of $27.4 billion. This was 4% more than the previous high which was set in 1953.

Private outlays for construction during September amounted to $2.4 billion and government spending $1.2 billion. Private spending was thus up 11% over September, 1953, while government spending was up 1%. Private outlays for the first nine months were up 6% over last year and government spending up 1%.

August housing starts for nonfarm dwellings totaled 111,000 units, 19% more than in the same month last year, the Bureau of Labor Statistics reported. For the first eight months of the year, 796,000 new homes were begun, topping the 771,300 units started in the same 1953 period by 3%.

Government statisticians were said to estimate total housing starts for the year at 1,130,000, second only to 1950 when 1,396,000 homes were begun.

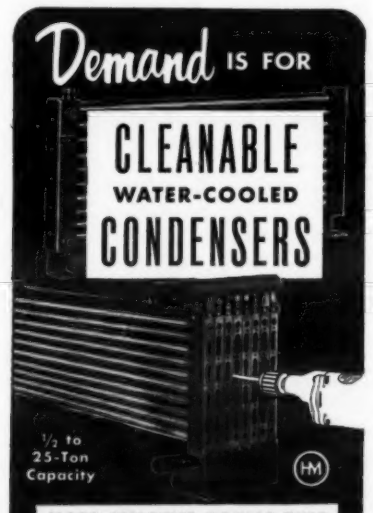
Private construction accounted for 109,800 of the August starts and 780,500 for the first eight months.

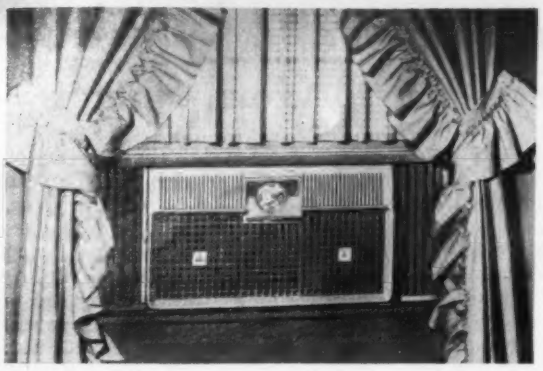
Correction

Fredrickson Still at Deepfreeze

An announcement published in the Oct. 18 issue of AIR CONDITIONING & REFRIGERATION NEWS that Ray G. Fredrickson had left Deepfreeze Div. of Motors Products Corp. to accept a position with Manitowoc Equipment Works was in error. M. Fredrickson still is associated with Deepfreeze. The NEWS regrets this error.

keep your coolers f
prevent freeze-up with
ALCO
EVAPORATOR
PRESSURE
REGULATORS
They hold evaporator pressures to a predetermined point when the load changes. Available for any size water cooler—from drinking fountains to large industrial installations.
ENGINEERED for service for life
SEE YOUR ALCO WHOLESALER
Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.
ALCO VALVE CO.
6033


Demand IS FOR
CLEANABLE
WATER-COOLED
CONDENSERS
½ to 25-Ton Capacity
MORE EFFICIENT DOUBLE-TUBE COUNTER-FLOW DESIGN
"New unit" efficiency is always maintained with H & M water-cooled Condensers because they are cleanable—quickly, economically. Do as the industry does—demand nothing less, for the cost is no more. Write for Catalog.
WHOLESALERS IN PRINCIPAL CITIES
Halstead & Mitchell
BESSEMER BLDG. • PITTSBURGH 22, PA.



MITCHELL 1955 Bel-Aire series of air conditioners feature Direction-Aire Control and Expando-mount. Louvered panels can be adjusted to guide air in any of 20 pre-set directions. The new, patented Expando-mount feature permits customer to install the unit in less than five minutes without tools.

Mitchell Claims Rapid Cool Down--

(Concluded from Page 1, Col. 4)

temperature in an average room 12° in 3 minutes and 15 seconds, the company claims. It also claims the new unit maintains its peak efficiency to 120° outside temperature.

This new series constitutes the top end of Mitchell's 1955 line.

Available in ¾, 1, and 1½-hp. models, these units feature the company's innovation, "Air Flow Modulation (AFM), a regulating switch that enables the unit to deliver either a concentrated column of air for fast cooling, or a gentle flow of cool air to maintain desired temperature."

"Other standard equipment features in this line," the company said, "are Mitchell's 'Weath'r-Dial' with seven levels of operation including heat; two-speed motors; an automatic thermostat; flush mounting which enables the unit to fit flat against the wall; 'Directionaire-control' whereby the flow of air can be beamed to any of 20 pre-set air control directions; and 'Expando-mount,' a new device which enables the air conditioner to be quickly and easily installed without tools and in any size window without custom fitting.

"So powerful is Mitchell's Air Flow Modulation that the stream of air can be felt as far as 20 ft. from the air conditioner. Capable of cooling the room in five minutes, AFM cuts down operating time of the air conditioner and eliminates the necessity of turning the conditioner on several hours before the room is to be used.

"The new, patented Expando-mount feature permits any customer to install the air conditioner in less than five minutes without the use of tools. The new feature also permits the unit to be moved easily from room to room and allows the window to be raised and lowered freely for washing."

Mitchell 1955 units are engineered to comply with the new ARI-EEI-NEMA joint recommendation which provides that, starting in 1956, room air conditioners have power factors not less than 85% for ¾-hp. units and up, the company noted, adding:

"Mitchell has built high power values into its 1955 line. Rated power factor at Underwriters Laboratory conditions are: ¾-hp. units, 90% power factor; 1-hp. units, 85% power factor; 1½-hp. units, 92% power factor.

"In addition, Mitchell has designed units to comply with the new National Electric Code which provides that total load of air conditioning equipment shall not exceed 50% of the rating of a branch circuit if lighting units or other appliances are also supplied and 80% of the rating of a branch circuit which does not supply lighting units or other appliances.

"The Mitchell ¾-hp. unit is designed to operate at under the 12 amperes limit set as maximum by the new code.

The ¾-hp. unit is for rooms up to 500 sq. ft.; the 1-hp. units for rooms up to 700 sq. ft.; and the 1½-hp. unit for rooms up to 900 sq. ft., according to Mitchel. Cabinets are in "Cadillac Beige."

Consisting of four unit sizes, the Bel-Aire comes in ⅓, ½, ¾, and 1-hp. models, the ¾ and 1-hp. models embodying Mitchell's new Super High-Capacity Chassis which bears the U. S. Testing Co. seal of approval.

Flow of air from the unit can be delivered to any of 20 different locations by simple adjustment of the pre-set controlling louvers. This unit also has the Expando-mount feature.

Other features in the Bel-Aire series are flush mounting and the Weath'r-Dial.

"Rated power factor at Underwriters Laboratory conditions are: Model M-235, ⅓-hp., 78%; model M-225, ½-hp., 92%; ¾-hp. units, 90%; 1-hp. units, 85%.

In addition, Mitchel has designed these units to comply with the new National Electric Code, the company said.

"M-235, ⅓-hp. and M-225, ½-hp. units are rated by Underwriters Laboratory at 7½ amperes, which is 50% of the branch circuit rating," Mitchell noted. ""This complies with the new code and allows these units to be plugged into existing outlets even though other appliances are on the circuit."

The ⅓-hp. unit is for rooms up to 250 sq. ft.; the ½-hp. model for rooms up to 385 sq. ft.; the ¾-hp. model for rooms up to 500 sq. ft.; and the 1-hp. model for rooms up to 700 sq. ft. Cabinets of these units are also in Cadillac Beige.

Under the incentive travel program, expense-paid trips to 250 luxury vacation sites are offered to Mitchel dealers.

Plum of the promotion is the all-expense tour to Paris awarded to those dealers who purchase upwards of 50 air conditioners before the Feb. 1 deadline. All dealers who buy six or more conditioners will get a weekend trip plus a chance on a ticket to Paris.

Tracey said the "one out of every 20" promotion is directed at that "admittedly small number of people who plan to buy a room air conditioner some time during the first two or three months of the year."

Under the plan, every person who buys a 1955 Mitchell air conditioner during February will be given a form on which to register his name, address, and the model and serial number of the purchase. He will be invited to fill out a line in answer to the statement, "I bought my 1955 Mitchell room air conditioner because. . . ."

A winner of an air conditioner will be selected from every 20 report forms received. The dealer will return the purchase price to the buyer; the distributor will credit the dealer his purchase price; and the company will credit the distributor his unit cost price, it was explained.

BEL-AIRE SERIES

Model No.	Hp.	Volt	Price
M-235	⅓	115	*
M-225	½	115	$299.95
M-245	¾	115	329.95
M-2005	1	230	399.95

*None Recommended.

SUPER HIGH-CAPACITY CHASSIS SERIES

M-345	¾	115	379.95
M-2085	¾	208	399.95
M-2305	¾	230	389.95
M-12085	1	208	439.95
M-1005	1	230	429.95
M-12485	1½	208	509.95
M-1245	1½	230	499.95

Westinghouse Room Air Conditioner Line--

(Concluded from Page 1, Col. 2)

in summer, a model for casement-type windows, and a 2-hp. model for larger area cooling."

All new models are finished in "Alpine Gray" in keeping with any contemporary decor.

Simultaneously, Bryant announced that the Westinghouse Electric Appliance Div. will establish a firm price policy on its line of room air conditioners designed "to help stabilize room air conditioner pricing and to reassure Westinghouse distributors and dealers of the true value of their franchise.

"On 1955 models," said Bryant, "Westinghouse will give dealer and distributor price protection until June 10.

"Our sales in 1954 have reflected a high preference and assured us of a good competitive position. This firm price policy is therefore designed to protect this position and to reassure our distributors and dealers that we do not consider the 'factory-to-dealer sales at below cost to build brand popularity' a good way to build a permanent or profitable business."

The new ¾-hp. deluxe model 5AWR-75D features a reverse-cycle system for heating in winter and cooling in summer. To provide year-round comfort, any one of 10 "Comfort Zones" can be selected on the pushbutton control panel.

"Zones for cool and dehumidify conditions include 'full cool' setting for maximum comfort on hot, humid days; 'quiet cool,' the low-speed fan setting for sleep-time comfort; 'cool-fresh air in' to bring in filtered, cooled, and dehumidified air from the outside; and 'cool exhaust' to pump out stale air and at the same time maintain a dry- cool comfort zone," the company said.

"As much as 30 qts. of moisture can be removed from the air in 24 hours at each of these comfort zones.

"Ventilating Comfort Control settings provide: 'fresh air in' to bring in fresh filtered air from the outside; 'exhaust stale air' to expel stale air and cooking odors; and 'circulate' to provide constant circulation and filtering of room air.

"For winter time comfort the user has a choice of three heat settings: 'heat-circulate' to provide quick circulation of heated room air; 'heat fresh air in' to bring in a constant supply of warm, filtered outside air; and 'heat exhaust' to pump out stale air while providing gentle circulation of warm air throughout the room.

"Three 'No Draft Grilles' can be individually adjusted to direct the flow of conditioned air up, down, left or right, or combinations as desired."

Available early in 1955 will be the new ¾-hp. casement-type room air conditioner and the 2-hp. deluxe model.

Features of the casement model 5AWC-75 will be concealed push-button Comfort Controls, with four comfort zones, adjustable grilles to direct air stream, twin filters, and "easy installation."

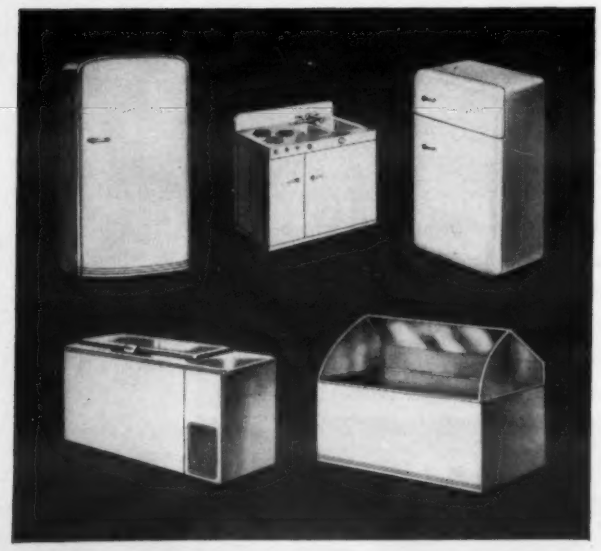
The 2-hp. deluxe model, 5AW-200D will be equipped with adjustable No Draft Grilles, feature a concealed Comfort Control panel, and, as all others of the 1955 line, will be styled in Alpine Gray.

Bryant also announced the following new prices for the 1955 models "averaging" $30 to $60 lower than prices on comparable models in 1954.

Suggested retail prices for the "special models" are $289.95 for the ½-hp. 5AW-50; $329.95 for the ¾-hp. 5AW-75; $379.95 for the 1-hp. 5AW-1002. Suggested retail prices for the "deluxe models" are $359.95 for the ¾-hp. 5AW-75D; $399.95 for the 1-hp. 5AW-100D2; and $499.95 for the 1½-hp. 5AW-150D2.

RP STEEL TUBING

The Tube Line That Rates a Buy-Line!



GM STEEL TUBING combines *quality, adaptability,* and *low cost.* That's why it's "The Tube Line That Rates a Buy-Line" . . . and first choice of efficiency-minded refrigeration manufacturers!

Mass-produced at the rate of *hundreds of thousands of feet daily,* GM Steel Tubing is available in straight lengths, long continuous coils, or pre-formed—in plain, copper plate or copper Fuse-Kote finish. Exclusive automatic bending equipment enables Rochester Products to fashion multiple units of condenser and evaporator coils . . . with *economies* that are *passed on to the buyer!*

SEND FOR FREE BROCHURE

This new, illustrated, fact-packed brochure tells how GM Steel Tubing can help solve design and production problems. Send today for free copy.

SEE SWEET'S PRODUCT DESIGN FILE 1a Ro

STEEL GM tubing

ROCHESTER PRODUCTS
Division of General Motors, Rochester, N. Y., U. S. A.

ALSO MANUFACTURERS OF ROCHESTER CARBURETORS AND ROCHESTER CIGAR LIGHTERS

SPECIALTY SELLING METHODS

Sales Contest Leaves Salesmen Well Suited

EVANSVILLE, Ind. — Clothes make the man, 'tis said, and Servel, Inc. hopes they can ring the cash register as well.

The firm has a two-month water heater sales contest in progress for distributor sales managers and salesmen in which hand-tailored clothes—suits, coats, and other wearing apparel—are the prizes.

According to Emil P. Nensel, product manager of the water heater division, it's a new twist to the company sales contest, called—and hold your breath—"Santa Clothes." Even the wives of winning salesmen can share in the prizes for there are suits, coats, slacks, and skirts for the distaff side.

Here's how the contest works: Points, based on the type and model of water heater, are awarded for each sale. To be eligible for an award, a minimum number of points are necessary. There are also bonus prizes of savings bonds.

Fur Stoles Help Warm Up Interest At New Norge Distributor Party

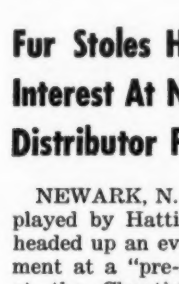
NEWARK, N. J.—Fur stoles displayed by Hattie Carnegie models headed up an evening of entertainment at a "pre-open house party" at the Chanticleer Supper Club here, marking the appointment of the T. A. O'Loughlin & Co. to handle the appliance line of Norge Div., Borg-Warner Corp.

The stoles were distributed to winning ticket holders at the open house the following day. Dealers attending the open house received gifts and were eligible to win prizes, whether or not they placed orders.

T. A. O'Loughlin, president of the company, reported that heavy orders and intense dealer interest produced a large volume of new business resulting from the Aug. 31 open house. He said that the new range line and economy-priced automatic dryer received the most interest.

K. J. Sullivan To Manage Refrigerator Sales Training at Westinghouse

MANSFIELD, Ohio — Appointment of Kevin J. Sullivan as manager of sales training for refrigerators was announced here recently by S. J. Stephenson, manager of refrigerator-freezer department, Westinghouse Electric Appliance Div.



K. J. Sullivan

In his new post, Sullivan will be responsible for developing and carrying out sales training programs on the company's line of refrigerators for distributor and retail salesmen.

He will replace W. J. Case, former manager of refrigerator and freezer sales training, who will devote his full time to freezer sales training.

The split between refrigerator and freezer sales training was made because of the stepped up training programs on each, according to Stephenson.

Prior to accepting his new position, Sullivan was a major appliance district manager working out of Boston. He joined Westinghouse as a major appliance factory representative there in March, 1953.

Admiral Dealer Promotion Offers Nylons as Premiums For Range Demonstrations

CHICAGO—Quality nylons at 29 cents a pair are being offered by Admiral dealers, under a new premium promotion, to prospects who come in to dealers' stores to watch a complete demonstration of an Admiral electric range with "Flex-O-Heat" controls.

The nylons are 51 gauge, 15 denier hose with a retail value of $1.29 a pair. The offer is limited to one pair to a customer.

The range demonstration promotion is being featured in two-column co-op newspaper advertisements which are being made available to dealers through Admiral distributors.

6 New 'Door Openers' Help Hotpoint Dealers Clear '54 Stocks

CHICAGO — Hotpoint Co. has prepared six new merchandising "door openers" to help dealers clear out 1954 appliances.

Number one merchandising item is a recently published children's cook book written by Dr. Henrietta Fleck, chairman of the home economics department of New York university. By special arrangement with the publishers, Hotpoint has been able to obtain exclusive rights for its own use. This 24-page booklet is entitled "A First Cook Book."

Hotpoint's merchandise services section has suggested seven methods, whereby the book can be put to effective use: A give-away to small fry visitors whose parents are occasional drop-ins; planning a "kiddie cooking school" and enlisting some of the mothers as helpers; promoting a table setting contest with prizes for the best table setter (a perfect place to educate the tots in the first rules of cooking); conduct a baking contest; stage a "cowboy hamburger cook session"; set up a special cook book window display; and use the booklet as a sales tool for house-to-house canvassing.

Other "kiddie" items that have a special attraction for youngsters include a "Pic-Nic" knife set, a five way assembled kit all rolled into a Boy-Scout-type knife including a can opener, bottle cap opener, fork, spoon, and a cutting blade, and a 100-year calendar which looks like an oversized silver dollar and has the ability to tell you the date and day, without making a mistake.

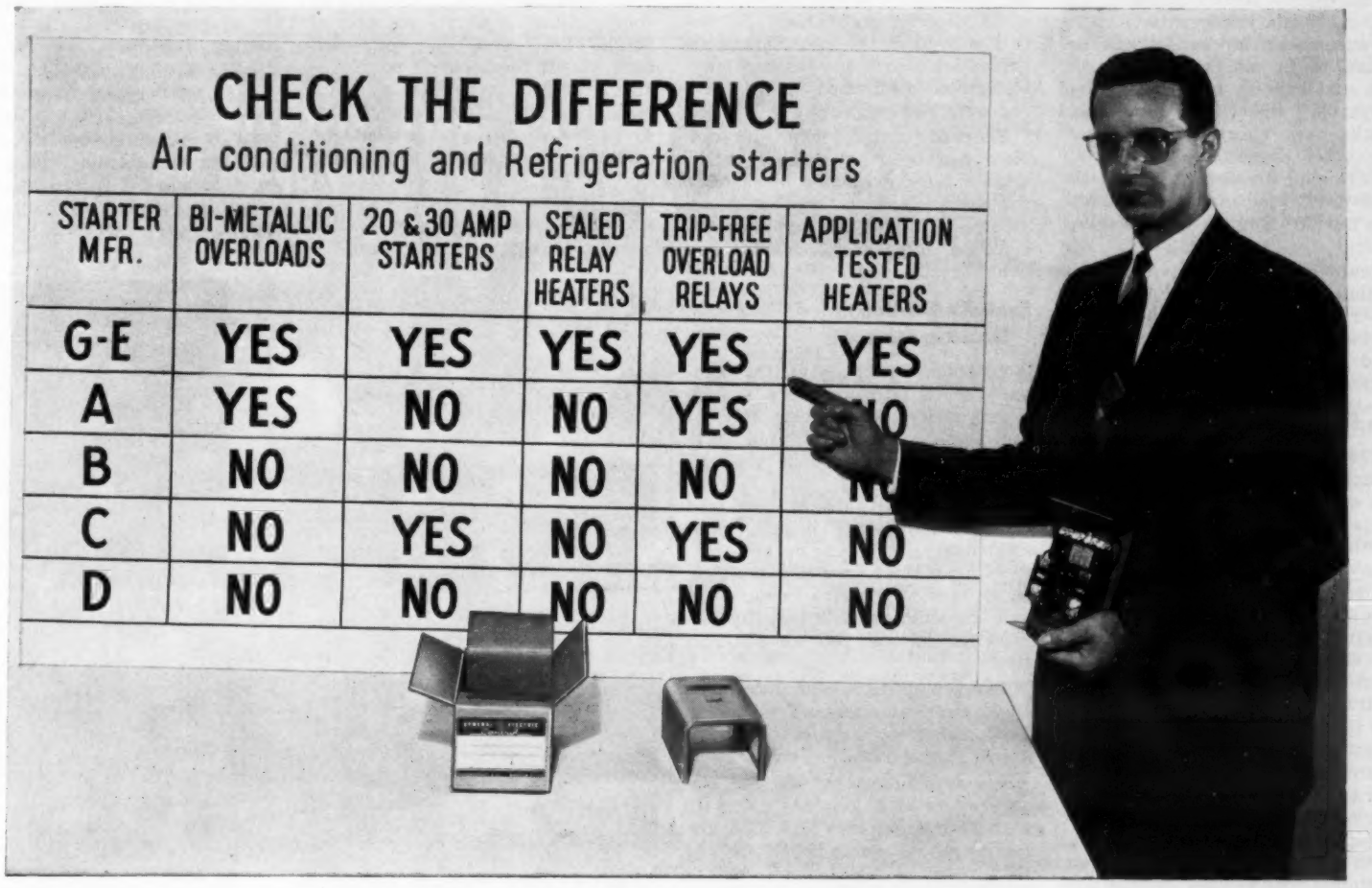
Two "grown-up" items contrived to stimulate dealer store traffic are a handy hang-up set of seven kitchen tools—spatula, pancake turner, hamburger turner, mixing spoon, basting spoon, strainer, and a fork—completely boxed and ready to use as a premium, and a six-piece knife set with a magnetized rack for handy kitchen use each with three scalloped knives and three hollow ground knives.

Paper match books are also being offered to dealers for store display, fairs, mailings, etc., each imprinted with the dealer's name and place of business.

Addition of these merchandising premiums and give-aways brings the present total for 1954 up to 120 different items which Hotpoint's merchandising services section offers dealers. These range in price from 4 cents to $40.

Thor Names Standard

CHICAGO—Thor Corp. has announced the appointment of Standard Supply Co., Salt Lake City, as distributor for the area. The area was previously served by Walter B. Lloyd Co.


CHECK THE DIFFERENCE
Air conditioning and Refrigeration starters
STARTER MFR.
BI-METALLIC OVERLOADS
20 & 30 AMP STARTERS
SEALED RELAY HEATERS
TRIP-FREE OVERLOAD RELAYS
APPLICATION TESTED HEATERS
G-E YES YES YES YES YES
A YES NO NO YES
B NO NO NO NO
C NO YES NO YES NO
D NO NO NO NO NO

Only G-E Starters give you all these protective features

PROTECTION OF HERMETICALLY-SEALED MOTORS is of prime importance to manufacturers and users of air conditioning and refrigeration equipment. The new, 53% smaller General Electric starter with quick-trip overload relays, as shown in the chart above, is the only air conditioning and refrigeration starter that incorporates all five protective features.

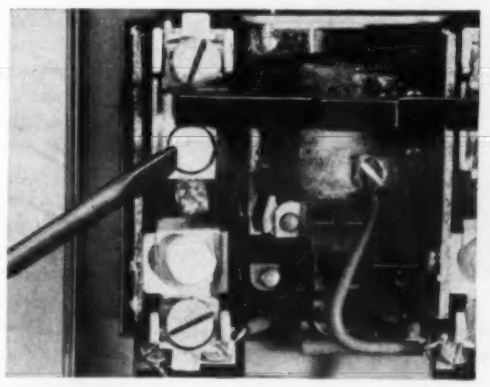
THOUSANDS OF LABORATORY AND FIELD TESTS were conducted before trip-free overload relays were incorporated as standard components of G-E air conditioning and refrigeration starters.

QUICK-TRIP OVERLOAD RELAYS allow you to get full benefit of your motor's maximum output, yet provide stall protection. The relay trips quickly because it incorporates two heat sources—a heater plus direct heating of temperature-sensitive bi-metal strips.

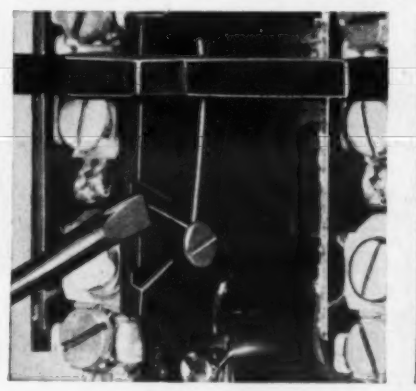
FOR MORE INFORMATION contact your nearest G-E Apparatus Sales Office, or write to Section 730–55, General Electric Company, Schenectady, N. Y. Ask for Bulletin GEA-6064A.

GENERAL ELECTRIC

BETTER MOTOR PROTECTION by more accurate overload relay. Relay is calibrated and sealed at the factory after heater is installed.

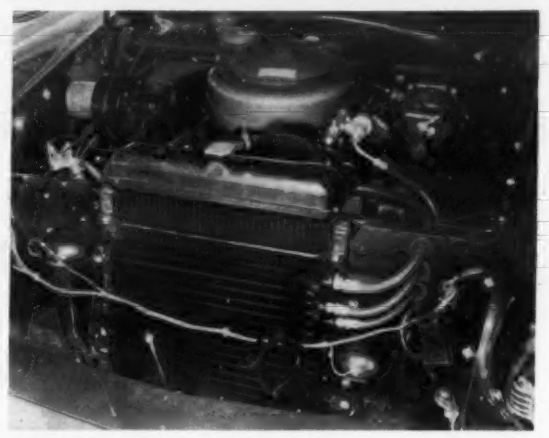


FOR SYSTEMS REQUIRING REMOTE RESET, General Electric trip-free overload relays may be factory adjusted for automatic reset.



TRIP-FREE RELAYS PROVIDE tamper-proof motor protection during overload. Holding or wedging reset button cannot operate motor.

INSIDE PASSENGER COMPARTMENT short plastic ducts discharge air over the heads of rear seat passengers and let it diffuse along headlining toward front of the car. Air returns along floor and through grilles in center back to evaporator. Fresh air is brought back in through car heater.



UNDER THE HOOD of a Lincoln sedan are the condenser and compressor of the Novi auto air conditioner. The condenser is in front of the car radiator and the compressor is just visible between the radiator and oil filter. Flexible rubber hoses serve as the refrigerant lines.

IN THE TRUNK is stored the compact evaporator and blower unit. Short flexible ducts connect the unit with the grilles in the package tray behind the rear seat. Outer ducts are for discharge and inner ones for return air. Return air passes through a filter as it enter the unit. Combination receiver-dryer is at right.

7 Fundamental Requirements of an Automobile Air Cooling Unit Outlined by Manufacturer

DETROIT—Novi Equipment Co. of Novi, Mich. is currently making an automobile air conditioner designed to fit all Ford Motor Co. cars and expects to introduce one adaptable to Oldsmobiles and Buicks very shortly, Jerry Pearsall, chief engineer of Novi's air conditioning division, informed the Detroit chapter of the Refrigeration Service Engineers Society recently.

Pearsall explained the operation of the Novi automobile air conditioner and outlined the seven fundamental requirements of a good unit, which Novi has attempted to meet.

Fundamentals Listed

These fundamentals, he said, are capacity, air distribution, regulation of cooling, simple design, dependability, easy installation and maintenance, and low cost.

"A good automobile air conditioning unit," Pearsall said, "must have the ability to deliver large amounts of cold air for extremely hot climates and for quick cool-down.

"It must have a gentle air motion throughout the car for cooling sensation, yet no sharp, high velocity drafts of uncomfortable cold air which can cause head colds. The rear seat passengers must be protected from cold air blasts.

"In addition to having high, maximum cooling capacity, the system must be able to deliver any degree of cooling desired between the maximum and a small fraction of the maximum at the driver's will.

"The design must be simple and free from fancy devices in order to reduce chances of trouble from failure of such devices. Simplicity is also important to keep costs down to a reasonable level.

Components Must Have Long Life

"The unit must consist of components having long life, even under rugged conditions encountered in autos, to keep maintenance costs and bother to a minimum.

"The air conditioner must be designed so that the unit can be easily and quickly installed, and easily repaired when defects occur.

"It must also be designed so that these requirements can be largely met and at the same time cost a minimum to build. Repairs must be few and inexpensive, to keep maintenance costs down.

"Novi has designed its unit with all these items in mind and has met them to a large degree," he stated.

The Novi air conditioner has the condenser in front of the car radiator and the compressor immediately behind the radiator. Flexible rubber hoses connect this equipment with the evaporator and blowers mounted in the trunk compartment. Air distribution is through the package tray behind the back seat and two plastic ducts which direct the air along the roof to the front of the car. Return air grilles are also in the package tray. Return air is filtered before passing over the evaporator.

Pearsall stated that although Novi has been making air conditioners for the Lincoln automobile for two years, it was only six months ago that the company decided to enter the air conditioning field directly.

Seek To Eliminate Disadvantages

At that time, he said, the company set out to develop a system which would out-perform the old unit and at the same time eliminate the disadvantages of the old system.

These disadvantages included costly complicated design, poor condensing and engine overheating, freezing of the evaporator, multiple rigid lines with many connections and difficult installation, insufficient control, and poor air distribution.

The new unit, he said, overcomes these disadvantages and meets the fundamental requirements outlined above in the following ways:

For ample capacity, the unit has an evaporator 4½ by 8½ by 18 in. with 12 fins per inch and with low restriction. Regular heater motors with oversize wheels are used in the two blowers on either side of the evaporator. Minimum air restrictions are used in the system. The 2-cylinder Tecumseh model HH compressor has an 8.6 in. displacement and a .88 compression ratio. The condenser is adequate to maintain a relatively low head pressure.

He pointed out that the hot air from the condenser would raise the temperature of the car radiator about 10° F. To overcome this additional heating, a special fan is provided with more blades and deeper pitch to give greater cooling capacity. With this fan, he said, the company has had no difficulties with the cooling system.

Air Directed Along Headlining to Front

For air distribution, plastic tubes are used to keep the air off the passengers sitting in the rear seat. They direct the air along the headlining toward the front of the car where it mixes with the warm air inside the car to increase air flow and lower the temperature of the air.

This system provides no high velocity drafts and gives the front seat the most cooling. Two-speed blower switches mounted on an instrument panel underneath the dash allow the driver and right hand passenger to regulate the flow of air from each duct to provide the desired degree of cooling. It also enables the driver to provide more cooling on the sunny side of the car and less on the shady side.

In addition to the nine possible combinations of air volume control (high, low, and off for each blower), air temperature control is also provided through a pressure regulating modulating valve which by-passes cooled gas around the compressor. Because of the location of the valve—just ahead of the combination receiver-dryer, size of the valve ball and seat, a large degree of control is possible, Pearsall declared.

He pointed out that the gas is drawn off the condensing coil a few passes below the top rather than just ahead of the compressor. The purpose of the modulating valve, he said, is to warm up the evaporator when the car is traveling at high speeds so as to prevent freezing the evaporator.

He explained that the higher the speed of the car, the higher the speed of the compressor, which sucks down the suction pressure in the evaporator, giving it too much cooling capacity. By regulating the modulating valve, the pressure can be maintained at a constant level which in turn will keep the temperature at a constant level.

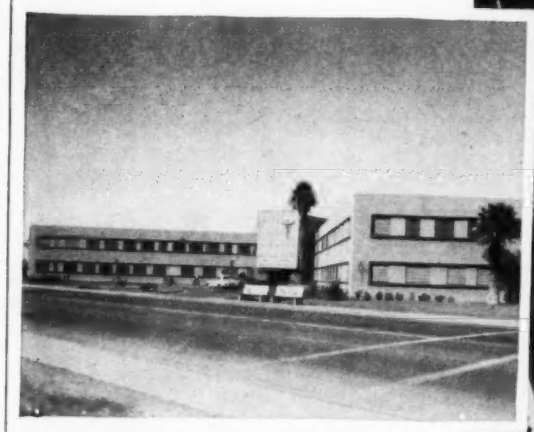
He said the valve can be regulated manually from the control panel anywhere from 25 lbs. to 65 lbs. suction pressure.

Simplicity of design, he added, was gained through the use of many standard parts, which are easily serviced and replaced. The evaporator box is of plain rectangular design. One piece flexible hose is used instead of multiple lengths of rigid tubing. Ductwork along the headlining inside the car was eliminated in favor of the short piece of plastic tube. And receiver and drier were combined into one part to keep the number of parts at a minimum.

Dependability is gained through the use of compressor, condenser, evaporator, and valves of proven designs and manufactured by reputable companies, he continued. Flexible lines and a minimum number of connections improve the dependability.

For easy installation and maintenance, the system is designed to

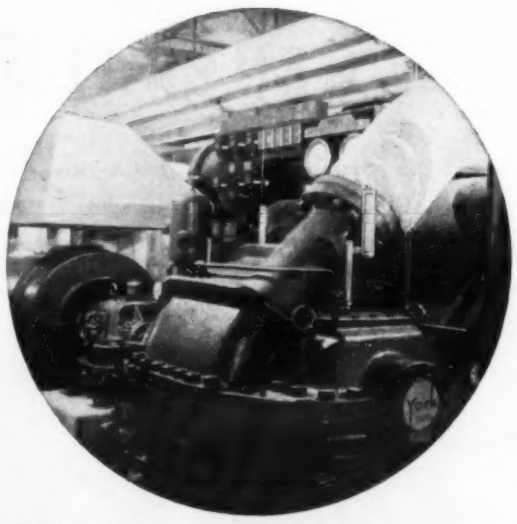
(Concluded on next page)



PARK CENTRAL MEDICAL BUILDING—above and air view at right—boasts 84 carefully designed suites to fit every medical specialist's needs, is convenient to the hospital.

New Phoenix medical center with "FREON"*

. . . Illustrates Another Large Potential Market

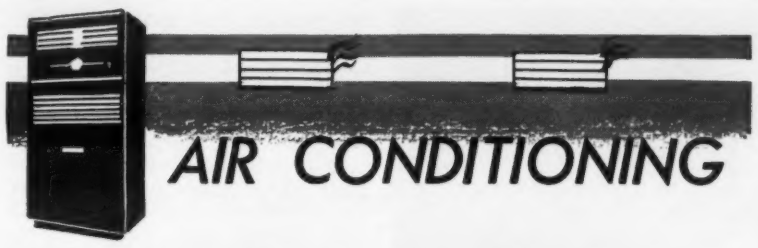


This York unit in the Park Central Medical Building uses "Freon-11." Automatic controls enable it to operate from 25% to 100% of capacity, changing as building needs fluctuate.

Air conditioning is one of the most important of many ultramodern features built into St. Joseph's Hospital and the neighboring Park Central Medical Building in Phoenix, Arizona's new Medical Center.

Summer heat in Phoenix ranges as high as 110°F., so patient comfort was a primary reason for installing air conditioning. Add to this daily heat the heat generated by operating-table lights and you see why doctors need air conditioned operating rooms. As a further advantage, air conditioning helps prevent the accumulation of an explosive mixture of anesthetic fumes. Many modern hospitals now air condition operating rooms for this reason.

Both the Hospital and the Medical Building use air conditioning equipment charged with Du Pont "Freon" fluorinated hydrocarbon refrigerants. In addition, the auxiliary equipment including ice-making machines, food freezers and walk-in cold boxes use "Freon" refrigerants.



Auto Air Conditioning Requirements--

(Concluded from preceding page)

fit any of a large number of cars through the use of a compact compressor and evaporator.

For installation, only four bolt holes and two hose holes are required in the trunk floor—(condensate drainage is through the bolt holes). Four large holes for discharge and return grilles plus screw holes are needed in the package tray. Existing bolts and mounting points are used in the engine for mounting the compressor. Flexible "Freon" hoses eliminate flare connections and soldering.

For maintenance, condenser replacement, for instance, requires only about 10 minutes to change as four bolts and three fittings are all that are used. Expansion valve, liquid indicator, receiver, and drier are exposed for quick and easy repair, adjustment, or replacement. The modulating valve is accessible and the compressor can be removed without losing the refrigerant charge. Shut-off valves are on the compressor.

Simple design and ease of installation keeps first cost down, Pearsall said, and minimum maintenance keeps operating costs down. He said that the unit is priced at $395 installed. Templates for cutting holes are furnished as are a complete set of instructions.

Pearsall declared that the Novi units are currently being sold only to automobile dealers who are held responsible for maintenance also. He commented that in Texas, which comprises about 70% of Novi's market, almost all automobile dealers selling the unit have in their shops mechanics who are experienced in refrigeration as well as automotive work. He said that a good mechanic can install one of the air conditioners in from three to four hours. Only eight connections are required to hook up the refrigeration system.

He noted that the Novi unit could be installed on any make of car, if the installer had the time, patience, and know-how to provide a solid mounting bracket for the compressor and to adapt the unit to meet conditions.

No Attempt To Rate Capacity

Pearsall said that there had been no attempt to rate the capacity of the air conditioner, but expressed confidence that it would do a cooling job under any known conditions.

He said that in a performance test in Texas, when the outside temperature was 100° F. in open sunshine, the unit held a temperature of 78° F. at 20 m.p.h., 72° F. at 40 m.p.h., and 68° F. at 60 m.p.h.

During a 20-minute idle test, he added, radiator temperature reached 212° F. and compressor head pressure reached 300 lbs. That was the highest head pressure he ever experienced, Pearsall noted. Under normal circumstances, head pressure would not go higher than 180 lbs., he said.

In reply to a question from the floor, Pearsall declared that if the passengers wanted fresh air, it is suggested that they draw it through the car heater. This will keep the dust out and bring the warm outside air in at floor level where it will not be noticed as it mixes with the cool air inside the car.

Unit Does Better Job On the Open Highway

Pearsall admitted that the air conditioner did a better job of cooling out on the open highway than it did in city traffic and would not cool the car at idling speed. But, he pointed out, if the idling speed was stepped up to 700 or 800 r.p.m., the unit would keep the interior comfortable.

Combination Receiver-Dryer

Pearsall found the service engineers critical of the combination receiver-dryer. He had to admit that if a drier needed changing, the entire receiver-dryer would have to be replaced and the entire charge of "Freon-12" (4 lbs.) would be lost.

While the company could have put shut-off valves on either side of the receiver-drier, he said, the addition of the valves would have increased the cost unnecessarily. He noted that to the company's knowledge, no drier has had to be replaced yet.

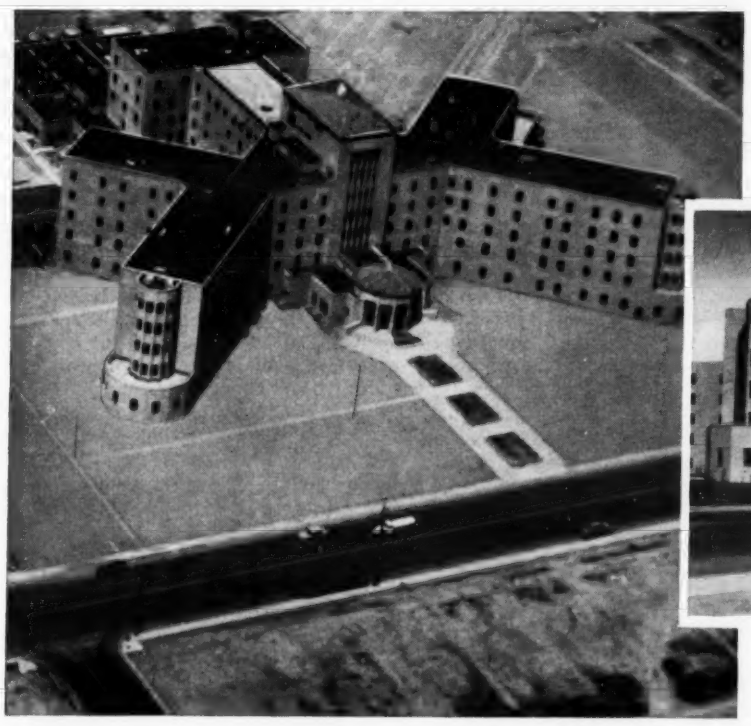
Another engineer argued that the receiver was not the best location for the drier. He believed it should be placed right after the expansion valve—the coldest part of the system. He contended that if the silica gel got hot enough, the drier would not hold the moisture, no matter how small an amount might be in the system.

Pearsall replied that the drier has sufficient capacity to hold whatever moisture might get into the system and pointed out that the company has not experienced any trouble on this score yet.

He declared that the company has never had any trouble with the rubber "Freon" hoses, except in an improper installation where the hose was held against the exhaust manifold and burned through. Improper installations were the biggest source of trouble, he commented.

Pearsall said that a ½ in. V-belt is used to drive the compressor off the car engine. Idler pulleys had to be installed on both the slack and tension sides of the belt to get rid of vibration problems.

In reply to a question, he said that the belt put no noticeable drag on the car engine. He tested that himself on his own car and found that the difference between operation with or without the compressor belt was less than 1 mile per gal. in gas consumption.



ST. JOSEPH'S HOSPITAL—above and air view at left. A $6½ million structure, it has a 326-bed capacity, and is administered by the Sisters of Mercy.

Walker Joins Stoddard As Asst. Sales Manager

CHICAGO—Appointment of W. Bruce Walker as assistant sales manager of Stoddard Industries, Inc. here was announced recently by J. B. Blanton, general sales manager.

W. B. Walker

Walker was previously product manager of dishwashers and food waste disposers for Hotpoint, Inc.

Stoddard is manufacturing a "Dust-magnet" electrostatic filter for air conditioners, which it is currently selling to manufacturers of air conditioners as component parts. The company plans to market the filter eventually as a replacement item, Blanton said.

Smart Motel

ELMIRA, N. Y.—An air conditioned restaurant and coffee shop will be included in the new Colonial Motel now under construction here.

Air Conditioning Goes Into 'Most Unusual Theater'

WASHINGTON, D. C. — A motion picture theater which boasts big names in the audience as well as on the screen has been equipped with gas air conditioning by Servel, Inc., according to H. R. Nielsen, manager of the company's air conditioning division.

It is the Academia Theater, built in Washington, D. C. by the Motion Picture Association of America as an industry "show case" to present the finest of motion picture films to the nation's leaders and distinguished foreign visitors.

Called "the nation's most unusual theater," the Academia seats only 71 persons—in foam rubber reclining chairs with built-in ash trays. It contains every luxury detail which has been developed for the comfort and esthetic pleasure of movie-goers.

A former president and vice president, a chief justice of the United States, congressional leaders, cabinet officers, military and labor leaders, educators, and foreign diplomats have been entertained there.

The air conditioning installation consists of two 5-ton Servel Wonderair "All-Year" gas-operated units, which provide both cooling and heating.

Gets Contract To Cool Louisville Office Bldg.

LOUISVILLE, Ky.—A contract for air conditioning the Louisville & Nashville Railroad Office building, Ninth and Broadway, has been let to Stevens Engineering Co.

Work on installation of the equipment will be started about Dec. 1. The structure has about 3,500,000 cu. ft., and the job reportedly is the second largest to be contracted for in an old office building in Louisville this year. The first was the Starks building.

According to a spokesman for the Stevens concern, work of installing the equipment will be done at night to prevent interruption of business.

He said the planned conditioning will both cool and heat. The system to be installed will cool with water. In winter, heat converters will supply warmth down to 10° when the building's reconditioned heating plant will take over.

Richard E. Holmes Dies; Was Worthington Engineer

SPRINGFIELD, Mass.—Richard E. Holmes, who had been chief engineer of the air conditioning and refrigeration division at the Holyoke branch of Worthington Corp. since 1950, died recently in Wesson Memorial hospital. He was 46.

Author of the book, "Air Conditioning In Summer and Winter," Holmes was at one time ventilation and refrigeration engineer at the Argonne National Laboratory, Atomic Energy Commission, Chicago, and, before that, was in charge of development and design engineering of air conditioning products for Westinghouse Electric Corp.

100% air conditioned safe refrigerants

3 UNITS CHARGED WITH "FREON" REFRIGERANTS DO THE JOB SAFELY, EFFICIENTLY

St. Joseph's Hospital has a York chilled-water system using two 220-ton centrifugal units, each with a 1000-lb. charge of "Freon-11" trichloromonofluoromethane. Heart of the Medical Building installation is a 350-ton York unit with a 1500-lb. charge of "Freon-11" refrigerant.

In the Hospital unit, well water pre-cools the air and carries off condenser heat, then passes on to irrigation ditches. Water conservation counts in Arizona!

As in so many installations, the safety and quality of "Freon" refrigerants are important in these buildings. Du Pont "Freon" refrigerants are nonflammable, nonexplosive, virtually nontoxic. Du Pont has been manufacturing them for over 23 years.

Rigid manufacturing standards insure refrigerants of highest quality. Moisture content is always lower than specifications. Whatever refrigeration or air conditioning requirements you have to fill, a "Freon" refrigerant will do the job perfectly. Recommend equipment charged with "Freon" to your clients. You can get full information on "Freon" safe refrigerants and their advantages from E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Div., Wilmington 98, Del.

KINETIC

FREON

SAFE REFRIGERANTS

*"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants

DU PONT

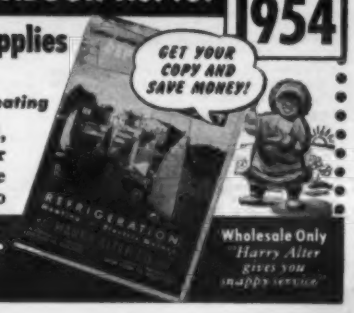
BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

Here's Harry Alter's DEPENDABOOK No. 161 1954

REFRIGERATION PARTS and Supplies plus

Electric-Motor Parts, Air Conditioning and Heating

There are over 9,000 items illustrated, described and rock-bottom-priced in our newest DEPENDABOOK. So—get and use this money-saver! Write for your copy to



The HARRY ALTER CO., Inc.
1728 S. Michigan Ave., Chicago 16, Ill.
134 Lafayette St., New York 13, N. Y.

Wholesale Only
Harry Alter gives you snappy service

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

When a hungry husband
Comes home from his tasks,
"What's cooking, darling?"
Is not what he asks.
Instead this question
His wife will hear—
"I'm nearly famished,
What's thawing, dear?"

—W. E. FARBSTEIN in *Wall Street Journal*

Lines to Remember

The little cares that fretted me,
I lost them yesterday,
Among the fields, above the sea,
Among the winds at play,
Among the lowing of the herds,
The rustling of the trees,
Among the singing of the birds,
The humming of the bees.
The foolish fears of what might pass
I cast them all away
Among the clover scented grass,
Among the new mown hay,
Among the bushing of the corn
Where drowsy poppies nod,
Where ill thoughts die and good are born . . .
Out in the fields with God.

Last Laugh

"Airplanes? I'm ag'in 'em," strafed a Presbyterian minister.
"Why?"
"I'm a devout coward."

Post Scriptum

There is one type of woman rarely seen in a psychiatrist's office. That is the woman who is glad she is a woman. Although now a minority in our female population she honestly enjoys homemaking, and more than anything in the world wants to raise a family of healthy, normal youngsters. During my 20 years of listening to distressed patients, I have never met her in my office—because she doesn't need help.—DR. MARYNIA F. FARNHAM.

Out of Our Mailbag

Detroit Edison Co.
Detroit, Mich.

Editor:

Being an avid Hoot Evers fan, I especially enjoyed your article on him in the Oct. 4 issue. I always make a point to read your column, as I work in the Detroit Edison Co. Library and am the first to get my hands on the paper. I also appreciated the other article you wrote about him about a year ago, entitled, "The Color Was Transparent." Since I have four scrapbooks full of pictures and stories on Hoot, that naturally went right in with them. Hoot has been my favorite (one and only I should say) since 1946. Two years before that nobody on the Tigers was much of a favorite with me except maybe Doc Cramer or Hank Greenberg.

I shall continue to look forward to additional articles on Hoot in the future issue of the NEWS.

NANCY DERR

HELP IS ON IT'S WAY to Ernest Condon. F. S. King, General Electric Co., Air Conditioning Div., packs catalogs, data sheets, and manuals to be sent to the U. S. Air Force Base in North Africa.

General Electric Co.
Air Conditioning Div.
Bloomfield, N. J.

Editor:

This is in reply to an open letter published in your "Off the Chest" column of Aug. 9. The letter to which I refer was from Ernest E. Condon, located at our Air Force Base in North Africa where he describes himself as being "in full charge of all air base work which includes training personnel, both civilian and military; inspection of all malfunctioning equipment, analyzing troubles, and directing repairs of same; plus keeping logs, time charts, records of operations, temperatures; and training of personnel for shop repairs and maintenance."

Condon went on to state that his job has been made more difficult because much of the necessary data and specifications of installations (air conditioning) have been misplaced, stolen, or blown away by sand and windstorms known as Siroccos and that he was appealing to manufacturers for their help in mailing him catalogs of their equipment, including operating manuals, parts list catalogs, etc., so that he can get all of this equipment, in proper operating condition and keep it that way.

I am taking this opportunity to inform you and Mr. Condon that I am this day forwarding him a goodly supply (38 pounds) of such data which refers to General Electric Commercial & Industrial Air Conditioning Equipment.

This is not the first time that we have had the opportunity to be of service to the Military and we, of General Electric Commercial & Industrial Air Conditioning Dept., are grateful for the opportunity of doing our part.

F. S. KING

McDaniel Westinghouse Technical Information Mgr.

PITTSBURGH—H. C. McDaniel has been appointed manager of technical information for Westinghouse Electric Corp., it was announced recently by Dale McFeatters, vice president in charge of information services.

McDaniel, formerly manager of technical publicity, now will supervise both the technical publicity operations and the *Westinghouse Engineer* magazine.

He replaces C. A. Scarlott, former technical information manager and editor of the *Engineer*, who has resigned to accept the position of manager of technical information services at the Stanford Research Institute, Palo Alto, Calif.

Named editor of the *Westinghouse Engineer* is R. W. Dodge, former managing editor.

Billingsley, Ad Agency Head, Dies After Heart Attack

CLEVELAND — Allen L. Billingsley, president of Fuller & Smith & Ross, advertising agency, died recently in St. Luke's hospital after suffering a heart attack at his home in Cleveland Heights. He was 64. He joined the agency in 1923 as an account executive and became president five years later.

Now Available for the First Time!

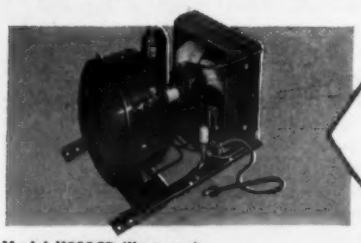
Dependable Kelvinator Sealed Compressors

Model DK352C ¼ H. P. Capacitor Start

★ High Capacity
★ Competitively Priced

For the first time you can get Kelvinator quality compressors individually packaged, for the replacement jobs. Now increase your service business, get more new business. Yes, Kelvinator replacement compressors help level the payroll load in slack times, open up new and profitable accounts, pre-sell more Kelvinator new equipment orders.

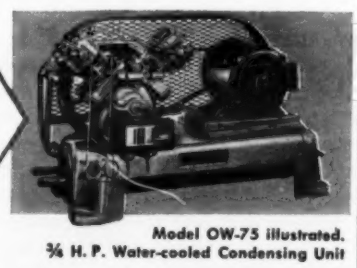
Single Cylinder Internally Mounted Sealed Compressors. 10 models ⅛ H. P. through ½ H. P. Split Phase—Low Starting Torque Motors and Capacitor Start—High Starting Torque Motors all furnished with "plug-in" combination magnetic start relays with thermal overload protection. Wiring, mounting brackets, and capacitors furnished with capacitor models.



Model K352CR illustrated.
¼ H. P. Capacitor Start Sealed Unit

There are Kelvinator Condensing Units For Every Commercial Refrigeration Application

Open-Type: air cooled, water cooled. Combination air & water cooled space-saving truck units and Sealed Condensing Units with a Five-Year Warranty



Model OW-75 illustrated.
¾ H. P. Water-cooled Condensing Unit

A complete line of internally mounted, hermetically sealed units with an unequalled record of dependability. ⅛ to ½ H. P. for a wide range of self-contained or remote applications.

Complete line of open-type, air-cooled, water-cooled, truck and combination air and water cooled from ¼ H. P. air-cooled through 5 H. P. water-cooled.

See Your Refrigeration Wholesaler Or Mail This Coupon

Commercial Dept. Kelvinator Division
American Motors Corp., Dept. AC-11A
14250 Plymouth Road, Detroit 32, Michigan
I am interested in more information about
☐ Sealed Compressors. ☐ Open-type condensing units.
☐ Sealed-type condensing units.
Name_____ Title_____
Company_____
Street Address_____
City_____ Zone____ State_____

When your business depends on cold you can depend on

Kelvinator

Specialists in Refrigeration Since 1914

NEW

Marsh Testing Set

. . . with temperature scales for
Freon-12 and Freon-22

The finest of testing instruments have been made still better. Pictured above are the new models of Marsh pressure and compound testing gauges . . . with two scales in color showing corresponding temperatures of Freon-12 and 22 . . . with greater pressure ranges in both gauges.

In the Compound gauge, the important retard scale has been increased to read from 0 to 80 lbs., and maximum reading is increased to 250 lbs. The range of the pressure gauge has also been increased . . . to 400 lbs.

Their precision bronze-bushed movements give them the remarkable accuracy of 1% of reading. Like their distinguished predecessors, they have the handsome, highly-polished brass cases with sparkling beveled-glass crystals. Threaded rings make it easy to remove the crystal, giving instant access to the Marsh "Recalibrator"—quickest and best way to maintain the high degree of accuracy vital to testing. Gauges are standard with ⅛" N.P.T. male bottom connection with restriction screw in connection. Dial size, 2½".

No servicing kit is complete without this testing set. Write for details or ***SEE YOUR JOBBER***

MARSH INSTRUMENT CO. SALES AFFILIATE OF JAS. P. MARSH CORPORATION
Dept. D, Skokie, Ill.

MARSH *Refrigeration Instruments*

GAUGES • WATER REGULATING VALVES • SOLENOID VALVES • HEATING SPECIALTIES

XUM

HOUSEHOLD REFRIGERATION

Improved Manufacturer-Retailer Relations Need Understanding of Mutual Problems

ATLANTA—A plea for greater understanding by the retailers of the problems manufacturers face, and active dealer support of those adopting sound policies to solve them was sounded recently by Wallace Johnston, past president of the National Appliance & Radio-TV Dealers Association.

He spoke at the first NARDA regional meeting here. Johnston is currently chairman of NARDA's Manufacturer Relations Committee.

"Through meetings and organizations and activities like these," he said, "we may well fill in the greatest need our industry feels today — channels of distribution which can keep pace with the flow of production. We must build better dealers."

DEALERS' GRIPE

He outlined principal causes of criticism of manufacturers by dealers as: failure to respect franchises, abuses of building sales, excess promotional material based on leader models and trade-ins, and mark-ups "which look like they were designed exclusively for the retail operation that buys in carloads, sells without service, tacks on special charges, and doesn't care about the created sale, the well-satisfied customer, or the prestige of a brand.

MANUFACTURERS' GRIPE

"Similarly the manufacturer has plenty of valid criticism he can level at us: undercapitalization, lazy sales and diffident management, stores that lack brightness and activity, petty gripes, lack of strong business controls, diversification among brands—and among those criticisms are some that apply to almost all of us," he said.

Johnson attributed much of the trouble in the industry today to the difficulty of simultaneously readjusting to the end of war shortages, new products, and to an industry now more efficient in mass production thanks to war-taught techniques and new, better facilities.

Coupled with these new factors were the difficulties of estimating attainable percentages of markets and reasonable quotas, causes of back door sales, transshipping, and other unwholesome practices based on distributors' or manufacturers' need for getting their money out of merchandise, he said.

IRREGULARITIES REFLECT

"Our manufacturers are learning that the irregularities practiced by the distributors to whom they entrust their brands eventually reflect back on them," Johnston stated.

"They're defining their corporate policies, often for the first time since the war. They're learning that only through the development of a dealer organization securely identified with their brands can they have the stability, continuity, and strength their company requires to stand up under today's competitive conditions. They're upgrading all their retail outlets.

"Product, too, is excellent. Seldom does a major company produce shoddy merchandise and try to cover up for it with intensive sales gimmicks. Those days are well behind us."

Learning what the market can absorb has been a costly experience for many manufacturers and, in some cases, a fatal experience, he said. Finding the leadership needed to bring greatness to a brand name has meant major changes in factory personnel.

There have been great shifts in products and in emphasis, mergers, and violent upheavels, all indicating the magnitude of the job manufacturers have in re-defining their roles in our industry and how they plan to fill them, Johnston said.

"We, as dealers, owe it to ourselves to shoulder our full share of the blame for the chaotic conditions in which the industry finds itself. Let's give our support to the manufacturers and distributors who are trying to do things right.

"Let's be patient and trusting. Let's make it real, enthusiastic support that they can feel in both ordinary sales and the ones that come from our really trying.

"We have a job to do and it's one that contains no griping and allows few backward glances. Ours is the job of bringing our manufacturers products to our customers as extensively, skillfully, and economically as we can, of making sure those customers are satisfied with our brands, and of knowing which are our brands and believing in them and the companies behind them with a passion."

Westinghouse Making Shift from Mansfield To New Columbus Plant

COLUMBUS, Ohio — Westinghouse Electric Corp. plans to terminate refrigerator manufacturing operations at Mansfield, Ohio by the end of the year and concentrate all refrigerator and freezer production at its new plant in Columbus, it has been reported.

The shift was planned when the new Columbus plant was opened earlier this year, and the company has been gradually shifting production since then, a spokesman pointed out.

To allow for the switch, Westinghouse recently hired about 1,000 new workers at Columbus. Another 500 will be hired before the end of the year, it was said.

The move raises Columbus plant employment to approximately 3,500. A second production shift has been started and a second assembly line put in operation. Start of a third assembly line was scheduled.

Mansfield facilities will be devoted to expanded output of the company's ranges, dryers, laundry equipment, and small appliances.

One report said Mansfield refrigerator making operations will shut down Nov. 19. However, the spokesman said he didn't know if the change would be completed by that date.

FTC Tells Discounters Seller Can Pick Customers

WASHINGTON, D. C.—The Federal Trade Commission has decided not to take any action in a complaint brought by the National Association of Discount Merchants that Masback, Inc., a New York City wholesaler, had refused to sell to its members, it was reported here recently.

The FTC informed that association that Masback had a legal right to choose its own customers and was apparently exercising that right.

It was pointed out that the Supreme Court has ruled that a seller has a right to choose his own customers as long as he does not do it in combination or agreement with others and is not in a dominant position in his industry.

Hotpoint Moves New York Office to 155 E. 44th St.

NEW YORK CITY—The New York district office for Hotpoint Co. has been moved to 155 E. 44th St., John S. Hicok, Hotpoint's New York district manager, announced recently.

The new headquarters will house the company's sales staffs for domestic appliances and commercial electric equipment for hotels, restaurants, and ships.

The new office space is more than double the size of the previous headquarters at 570 Lexington Ave. A 100% increase in Hotpoint appliance sales in the New York-New Jersey trading areas over the past four years necessitated the move, Hicok said.

Norge Names Tatham-Laird As New Advertising Agency

CHICAGO—The Norge Div. of Borg-Warner Corp. has appointed Tatham-Laird, Inc. to handle its advertising, R. C. Connell, vice president in charge of sales, has announced.

The appointment is effective Nov. 12. Tatham-Laird will start immediately to plan 1955 consumer and trade advertising schedules with Norge, according to Robert J. Runge, Norge advertising director. Norge in 1955 will have an advertising budget estimated at a record $4,000,000, Runge stated.

Tatham-Laird, a Chicago firm which previously handled the Admiral Corp. account, has had extensive experience in the appliance field, Runge pointed out.

In addition to preparation of national advertising schedules, Tatham-Laird will work with Norge in completing plans for the greatly expanded 1955 Norge promotion and merchandising programs.

J. Walter Thompson Co., Chicago, formerly handled the Norge account.

CONTINUOUS CONTACT ALUMINUM TUBING
freezes food faster at less cost.

Bohn aluminum freezing surfaces—provide a uniformly low temperature that assures the safest possible food storage. Seamless aluminum tubing is bonded to the aluminum plate in continuous contact. This provides better conductivity for faster freezing at less operating cost. Bohn aluminum freezer plates are also rust-proof to insure years of trouble-free service, and non-toxic for greater food protection.

NEW BOOKLET
"Bohn Products and How They are Made."
Write for free copy of this pictorial tour through Bohn plants.

EVAPORATORS • FREEZING PLATES • TUBING • COILS AND CONDENSERS
BOHN ALUMINUM AND BRASS CORPORATION
1400 LAFAYETTE BUILDING • DETROIT 26, MICHIGAN
Sales Offices: • BOSTON • CHICAGO • CLEVELAND • DAYTON • DETROIT INDIANAPOLIS • LOS ANGELES • MILWAUKEE • MINNEAPOLIS • MOLINE NEW YORK • PHILADELPHIA • ROCHESTER • ST. LOUIS

Bohn Freezer plates made with seamless aluminum tubing freeze food faster at less cost, provide uniformly low temperature throughout freezer.

Commercial Refrigeration

Apartment House Freezer Rental

Drawer-Type Equipment Eases Space, Electric Loads; Specialty-Selling Firms Best for Placing Equipment, Blast Freeze Survey Finds

CHICAGO — There are many things other than just supplying low-temperature storage space in setting up a program of renting freezer space to apartment house owners, declares Robert B. Ayres, president of Blast Freeze Corp., which company has been making an extensive study of the apartment house market for some time.

In bringing forward the results of his company's study, Ayres said that "in revealing our findings and plan for this huge new market we hope it will assist others in judging and approaching this new market."

Limited Space Makes Poor Home Freezer Customers

"The installation of a locker plant in the building is the natural thing to do," Ayres states. "The tenant consumption and desire for frozen foods has outdistanced the ability to supply storage facilities by other means at competitive prices. Apartment tenants have been known as poor customers for home freezers. This, then, is a method of satisfying their needs without making them purchase costly equipment which may not fit into their next apartment.

"Blast Freeze's exclusive drawer-type freezers, known as Iceberg, have been used in apartment buildings since 1947. In 1949 an extensive installation of facilities for over 1,000 tenants was made in Chicago. From 1949 until 1953 the units were off the market. Upon taking over the patent rights to Iceberg in 1953, a general survey was made to determine the best markets for the past, as well as new, products based upon the Iceberg patents.

Most Equipment Serves Only 10% to 25% of Tenants

"The first survey efforts were applied to the buildings where Iceberg equipment had been in use for some time. At first the results were very disappointing. There were many vacancies although in most cases the equipment capacity would only serve 10 to 25% of the tenants of the building.

"The rented drawers were another puzzle. There was very little food in most and some were empty. The building management generally was not too enthusiastic and in some cases had turned down a rediculously low offer to purchase the equipment already installed. At this point there were many doubts about this field.

"In order to complete the survey, buildings with no equipment installed were next studied. In every case the management was contacted first and found to be very receptive and cooperative. Next, the tenants were interviewed and found to be equally receptive. There seemed to be an impatient desire on the part of both to get the service for their building. These results did not correlate with the poor findings on buildings already serviced.

"The survey efforts were next directed back at the existing installations for the answers to the discrepancies. The solution was not long in coming. Of greatest importance, the companies renting the freezers had demanded a percentage on the food sold to the tenants, in return for the exclusive right to service the tenants.

"In addition to the percentage (from 3 to 5%) a deposit was asked (from $25 to $50 per tenant) to assure payment of the royalty. The food supplier's prices had to be higher to compensate for these extra costs.

"The fact that only one food supplier was to supply the tenant (at higher prices) caused the tenant inconvenience, but most important was the uncertain delivery time as he was the only supplier with a key.

Resents Being Captive Customer

"The housewife also seemed to resent being a captive customer for one supplier. The food suppliers involved were of the utmost integrity, their regular prices were in line, and they did an excellent freezer business in buildings not covered by this particular arrangement at prices below the 'retail' level.

"In no instance was the $3 per month rental charge thought to be too high. The tenants complained most of high food prices, lack of freedom to choose their source, and ignorance of how to order or select desired food.

"Confusion about ordering was traceable to the lack of a program by the meat man or rental company to give this simple education. Those conducting the survey were satisfied that the discrepancies had been explained and that it had brought out valuable points to be included in a successful program.

Who Should Buy Freezer?

"Other points investigated were concerned with the method of making the service available to the tenants and the associated problems. The question of who should buy the freezer equipment and how it should be financed was a major one. Also considered was what form the equipment should take—individual units or locker type.

"It was the feeling and experience that tenants of apartment buildings did not normally buy major items such as the conventional freezer and if they could be persuaded to buy, this would present a problem to the building owners because of the additional electric load and the space limitations. Locker-type equipment offered a solution to both problems.

"Buying and paying for the equipment posed the most important consideration. It was a certainty that its cost should be spread over at least 3 to 5 years. There was not the eventual ownership of the equipment by the tenant to justify a shorter period with higher charges. It had been adequately proven unsound to raise the food prices to pay for it.

"Yet, if the long period of amortization was used, it required a larger capital structure than was to be found in the normal operation of most firms associated with the frozen food business.

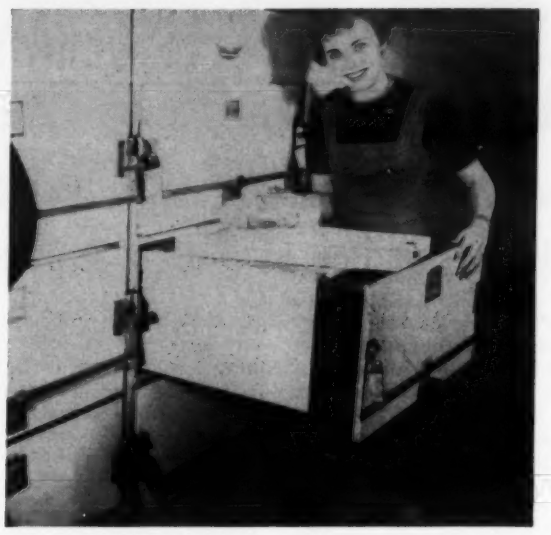
"It was therefore concluded that two methods of placing the equipment could be utilized. The apartment building owner represented one method, for he could obtain satisfactory financing in conjunction with his building due to it being an additional service or an income producer. The second method was to place the equipment in the hands of a special 'freezer rental' distributor who would be capitalized for the long run stability so necessary to the business.

"Whether the equipment was owned by a rental firm or the building, there was still the necessity of selling the service to the tenants. In a few past instances the service was given by the building as a part of the rent, but this was indicated by most management companies as not so desirable as having an independent company supply it.

"Analyzing the methods used in initial placement as well as renewals, it was considered important to have a more formal placement program incorporating better literature than had been used previously. This would pre-sell the tenant so that the actual closing time would be reduced from a current average of one hour per tenant to about 15 or 20 minutes.

"It was therefore our conclusion that the most advantageous method of placing our equipment would be through a specialty selling firm concentrating its efforts to this end.

(Concluded on next page)



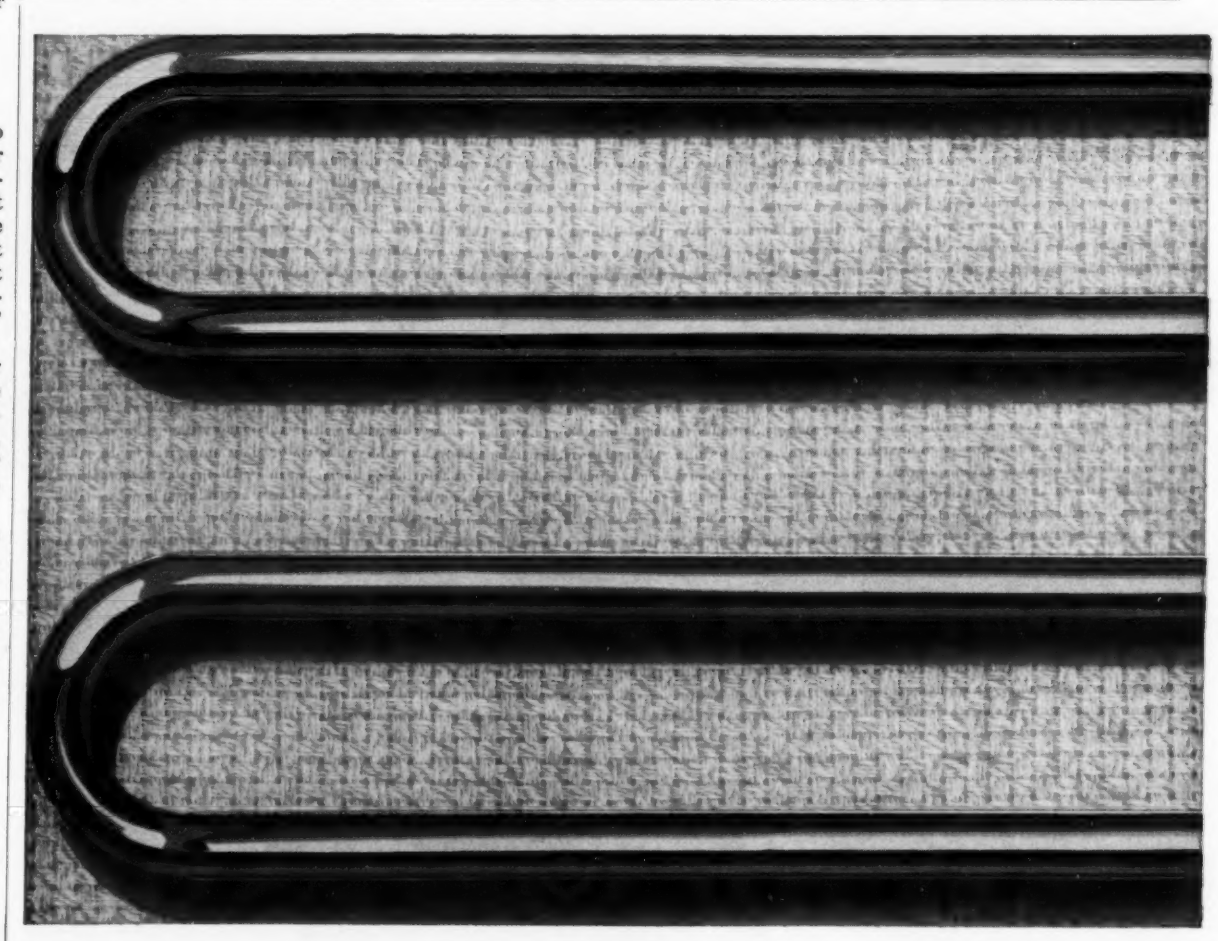
TWO-COMPARTMENT DRAWER is typical of type suggested for apartment houses.

WANTED

DESIGN & PRODUCTION ENGINEER

Aggressive, experienced refrigeration engineer between 30 and 50 by reputable, nationally-known, well-rated Midwest manufacturer of beverage coolers and dispensers, walk-ins, ice cube machines and other commercial equipment. Include complete resume of education, employment history and references in reply. All applications confidential.

Write BOX A5085, Air Conditioning & Refrigeration News.



Portrait of the coil that stays sold!

WHY BUNDYWELD IS BETTER TUBING

Bundyweld starts as a single strip of copper-coated steel. Then it's . . . continuously rolled twice around laterally into a tube of uniform thickness, and passed through a furnace. Copper coating fuses with steel. Result . . . Bundyweld, double-walled and brazed through 360° of wall contact.

NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.

Apartment House Freezer Rental Plan--

(Concluded from preceding page)

"The copy appeal of the program for selling tenants the locker service was determined as one of selling convenience first and economy as second consideration. Economy, however, is important for the tenant will not pay excessively for the convenience. The $3 per month rent has been easily recovered in savings on purchases or represents only 10 cents a day if savings are disregarded. Anything increasing food costs or confining buying to one source was felt to be dangerous in view of past experience.

3-Cu. Ft. Size Is Basic Rental Unit

"The size of the basic unit of rental has been 3 cu. ft. This appears to satisfy the majority of the tenants although in some instances two rental units (or 6 cu. ft.) are used at a cost of $6 per month. Where this is desired, the added use covers the higher cost. The average tenants feel they have as much use of the 3-cu. ft. unit as they need due to frequent deliveries replenishing their supply. A number who formerly used a home freezer confirmed this line of thinking.

"From the foregoing data, a complete merchandising program has been developed, in cooperation with the Henry M. Hempsted Co. of Chicago. Special distributors are being selected in the major areas to perform this specific function. These distributors are in addition to this company's regular commercial distributors although in many instances they work together on service and installation.

"The program consists of a 'local plan' which spells out in detail much of the survey data to forewarn of the pitfalls and to act as a guide in conducting their business. This includes all necessary letters, literature, and return cards (imprinted), to facilitate contacting and selling tenants, and all forms, leases, and salesmen's kits to tie all segments together.

"In formulating the total program, it was found that a considerable portion of the selling efforts will be accomplished by the direct mail campaign. However, the closing of a lease between the tenants and the rental firm is best handled by competent 'insurance type' salesmen who will be present to answer any last minute questions. By their very presence they will instill confidence and assure the tenants they are dealing with a reputable firm.

"The type of man required should not be 'high pressure' but rather one who will wear well and who is building a future for himself in this new business. The compensation is designed to attract this type of individual, it being a combination of initial and renewal commissions. It is part of the Blast Freeze program to assist in hiring and training the proper men where necessary.

Distributor Caliber Important

"The greatest importance is placed by Blast Freeze in obtaining distributors of the caliber capable of following through with the program. His financial integrity is important to the long run stability of the program due to the financing requirements. He is given an exclusive area and buys directly from Blast Freeze at regular distributor prices.

Installed cost of the equipment is approximately two times yearly rental. Every detail of the distributor's operation is covered in the program so that successful execution should be mostly a matter of following a timetable."

Body Joins Thermador as Assistant Chief Engineer

LOS ANGELES — Appointment of William K. Body as assistant chief engineer in charge of refrigeration and air conditioning for Thermador Electrical Mfg. Co. has been announced by W. E. Cranston, president.

Body, a graduate of Iowa State college, has recently been manager of Kelvinator's refrigeration research laboratory.

HUSSMANN NEVER INTENDED that this display case should be a double-deck self-service baby crib, but Ray Pennington, who sells the Hussmann line in the Springfield, Ill. territory, found it ideal for that purpose. Ray looks fondly at his sleeping two-year-old son Robert, who is doing with paternal approval what many a salesman would like to do on a warm, lazy afternoon.

Environmental Equipment Institute Awards 'Seal of Approval' to 7 Firms

NEW YORK CITY — The Environmental Equipment Institute announced recently that it has awarded its "Seal of Approval" to seven member companies under a new Seal of Approval program.

The companies are Alpha Electric Refrigeration Co., Detroit; Bemco, Inc., North Hollywood, Calif.; Cincinnati Sub-Zero Products, Cincinnati; Harris Refrigeration Co., Cambridge, Mass.; Standard Cabinet Co., Carlstadt, N. J.; Tenney Engineering, Inc., Union, N. J.; and Webber Mfg. Co., Inc., Indianapolis.

These companies manufacture equipment for producing high and low temperatures, low pressure, humidity, salt spray, and other conditions found in various environments on the earth.

"The award is given only to companies having engineering staffs adequate to design and manufacture this exacting type of equipment," the institute said. "Each company so honored has satisfied the institute that it has a record reflecting the highest standards of business ethics.

"Thus, for the first time in the industry of environmental testing, purchasers of this type of equipment have available a list of companies with assured reputations for honesty, integrity, and engineering competence.

"Purchasers under the Seal of Approval program receive a registration certificate for each piece of environmental test equipment, after it has passed its tests.

"This is evidence that they have bought equipment from a manufacturer who is participating in this voluntary plan for upgrading the industry. The certificate also authorizes them to register complaints regarding the equipment.

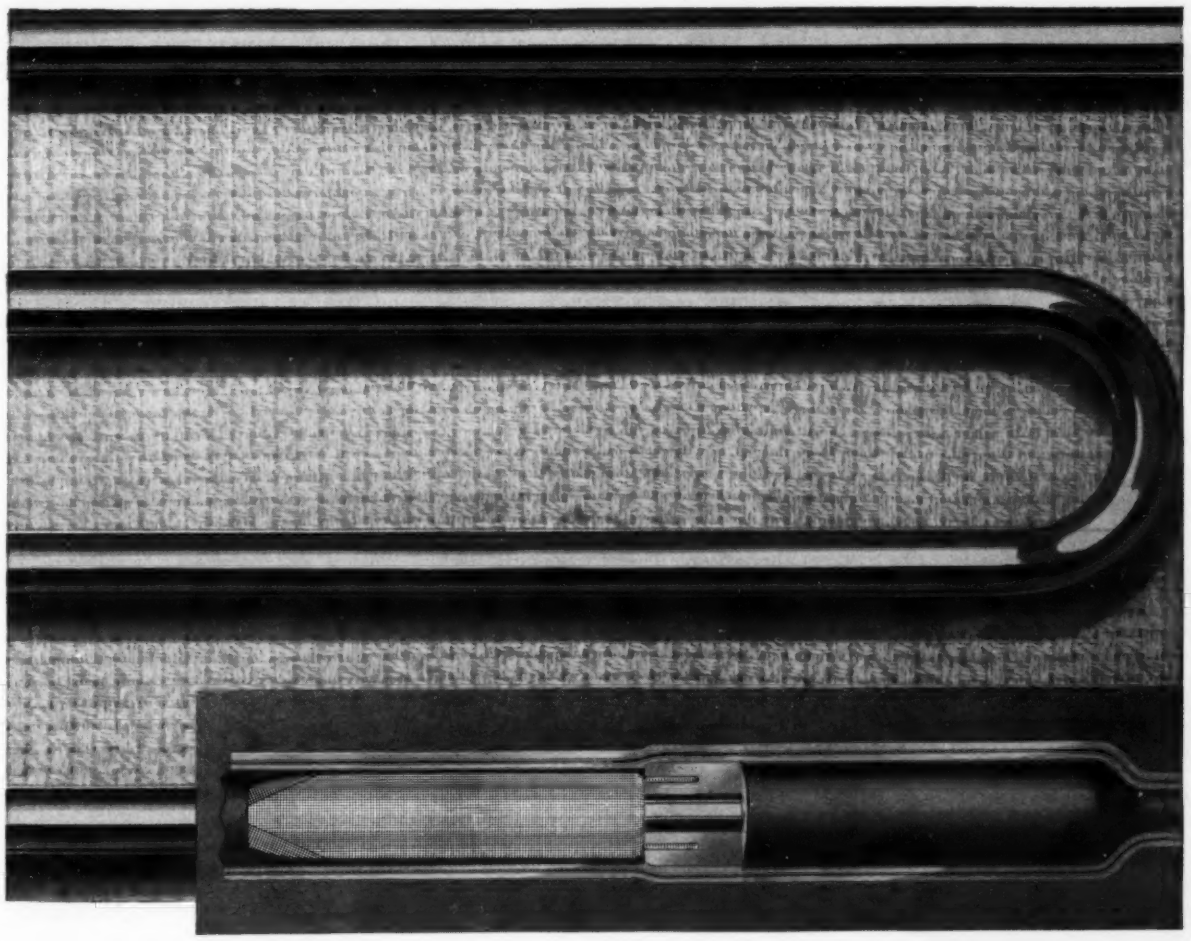
"The manufacturers under the Seal of Approval program guarantee that the equipment conforms in every respect to the specifications for construction and performance agreed upon at the time of purchase. Should a customer, at any time, feel that such is not the case, he can ask the institute to investigate.

"The institute will look into all such charges. When necessary, it will appoint a committee of engineers from the staffs of other manufacturers to evaluate the facts.

"A finding by this committee to the effect that the manufacturer has willfully misrepresented his product or failed to satisfy legitimate claims of the customer, will cause the offending manufacturer to lose his right to the Seal."

NEW PRODUCTS?

Turn to "What's New" Page for useful information on new products. Use Key No. for fastest service.



Another Bundy-pioneered idea which saves *you* time and money

HERE at Bundy we don't rest on our laurels just because we produce condenser coils that will go on working faithfully through many years of efficient, leakproof service. We constantly *improve* on these condenser coils.

Take the strainer application above, for example. Instead of adding the customary separate tubular strainer between the end of the condenser coil and the capillary tube, Bundy built a small strainer *into* the condenser coil. The strainer, fitted to brass collar, is press-fit into the expanded end of the condenser coil. The strainer end of the coil is then swaged at the tip joining the capillary tube. A joint is eliminated, saving time and cost of making additional expanded part and assembling it onto coil.

Bundyweld's ability to expand readily and without leakage makes this particular application possible. For example, Bundyweld expands from ¼" O.D. to ¼" I.D. The O.D. of the filter screen section is .170 O.D., which slips inside the expanded section and guarantees a full 1/32" clearance all the way around the screen as it fits into the tube.

Solving problems like this one is a habit with us at Bundy. We offer unexcelled fabrication facilities, specialized engineering skills, and a conscientious devotion to our customers' problems. Perhaps we can help you, too. Why not call VA 3-1300 in Detroit for information on your applications.

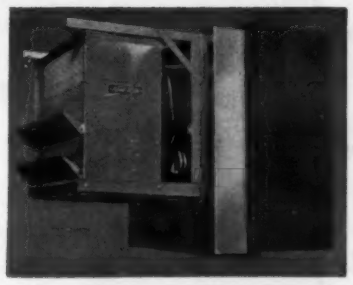
BUNDY TUBING COMPANY
DETROIT 14, MICHIGAN

BUNDYWELD TUBING®
DOUBLE-WALLED FROM A SINGLE STRIP

Bundy Tubing Distributors and Representatives: *Bridgeport, Conn.:* Korhumel Steel & Aluminum Co., 117 E. Washington St. • *Cambridge 42, Mass.:* Austin-Hastings Co., Inc., 226 Binney St. • *Chattanooga 2, Tenn.:* Peirson-Deakins Co., 823-824 Chattanooga Bank Bldg. • *Chicago 32, Ill.:* Lapham-Hickey Co., 3333 W. 47th Place • *Elizabeth, New Jersey:* A. B. Murray Co., Inc., Post Office Box 476 • *Los Angeles 58, Calif.:* Tubesales, 5400 Alcoa Ave. • *Philadelphia 3, Penn.:* Rutan & Co., 1717 Sansom St. • *San Francisco 10, Calif.:* Pacific Metals Co., Ltd., 3100 19th St. • *Seattle 4, Wash.:* Eagle Metals Co., 4755 First Ave., South • *Toronto 5, Ontario, Canada:* Alloy Metal Sales, Ltd., 181 Fleet St., East.
Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

NEW KOOL-RITE FREEZER UNIT CUTS INSTALLATION COSTS

Kool-Rite development of Reverse Cycle



Kool-Rite Model FX

Automatic hot gas defrost, trouble-free performance and low cost are features of a new low-temperature package refrigeration unit manufactured by Kool-Rite Co., Roberts, Wisconsin. This unit has high and low side (complete with evaporator and compressor) mounted on a single panel for ease of installation.

Recently presented to the public, many buyers and manufacturers of walk-in freezers are now specifying Kool-Rite units for all low-temperature applications.

Kool-Rite freezer units are designed for applications requiring temperatures from -20° F. to 32° F. in any walk-in freezer made today. Reverse Cycle system provides comparatively frost-free operation. The unit will operate efficiently in surrounding temperatures as low as 20° F. This Kool-Rite development permits use of space formerly impracticable because of below normal room temperatures.

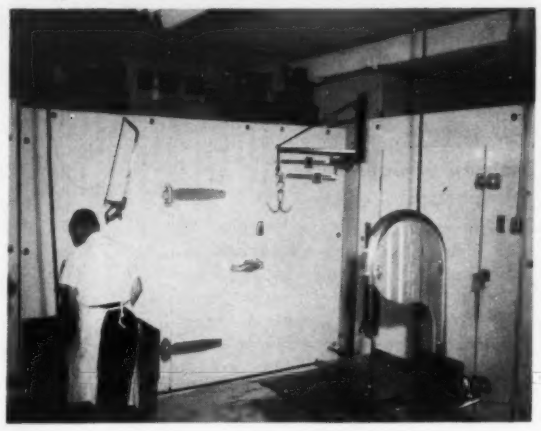
Completely automatic, Kool-Rite low-temperature systems defrost 4 to 8 times per day to give peak performance at a savings. Average defrost cycle is about 8 minutes, but can be adjusted to meet unusual requirements. Completely self-contained in one simple unit, Kool-Rite systems are easy to service.

For complete information without obligation, write today to Kool-Rite, Erickson Industries, Inc., Roberts, Wisconsin.

XUM

HIS FREEZER-FOOD PLAN IS REALLY WORKING

Close Control Over Food Supply, Customer Attention Is the Answer



BACKROOM of building where H. W. Staats' freezer-food plan operates is fitted for all kinds of meat cutting and processing.

PEORIA, Ill.—You can't operate a successful freezer-food plan without absolute control over the food supply, avers H. W. Staats, who operates both an appliance business and a freezer-food plan here.

The man who tries is headed for trouble, he declared. Staats should know. He tried it both ways.

Nearly three years ago, he jumped into the freezer-food plan business, directing a specialty freezer selling organization and leaving the food business to a local locker plant. The operation started out very well and Staats had great hopes for its success.

But, he said, the locker began to substitute poorer quality foods and lower grade meat until his customers became dissatisfied. After six months, Staats gave up food plan selling, though he was convinced that the basic idea was sound.

About 14 months ago, he decided to give the idea another whirl. But this time, he hired a conscientious and expert butcher of 25 years' experience, who had worked nine years in the Kroger organization, to buy and process the meats to be used in the plan.

Staats set up his new freezer-food plan organization in a separate store more than a mile from his appliance store. He outfitted the backroom with all the equipment needed to cut and process meat, including a 14 by 16-ft. walk-in cooler for storing sides, an 8 by 12-ft. blast freezer for freezing the cut and packaged meats, and an 8 by 16-ft. vegetable freezer for other frozen foods supplied under the plan.

This backroom is a key sales feature of his food plan, Staats said, and is the place where the customer is really sold on the idea of freezer living.

When the deal is closed, the new customer is brought to the store to place her initial order. There, either Staats' home economist or Mel Hanks, the butcher, explains to her about the quality of meats they sell, how there is more actual meat per cut, tells her about shrinkage, trimming, and waste, and shows her how the orders are processed, particularly noting the "extra" care that is given, such as scraping the bone dust off the meat to improve its appearance and lessen darkening.

Hanks also points out how blast freezing of the meat at -30° F. not only retains the fresh quality of the meat but also tenderizes it. He pointed out that he buys his meat from the packer far enough ahead so that it is aged from seven to nine days before he cuts it.

WALK-IN, 14 by 16 ft., is used to store sides. Staats' own butcher buys and processes meats to insure high quality.

LOBBY OF STORE is used for meat cutting demonstrations. Neat, clean appearance inspires confidence.

After the customer has heard all this and seen the cleanliness and competence with which her order is handled, she is really sold on the plan, Staats commented. Bringing her into the store also enables the home economist to check up on what the salesman has told the customer in order to make the sale. If there has been any misunderstanding it is quickly straightened out, he noted.

Initial Order Sets Pace

The initial visit also allows the customer to instruct the butcher on just how she wants her meat cut. These instructions are all recorded so that they will be followed on all subsequent orders unless changed later.

While the initial order is for a three or four months supply, Staats said, the customer is free to order whatever she wishes and in whatever quantity she desires thereafter. There are no "packages" to which she is restricted.

A measure of the success that his new operation has had, he indicated, lies in the fact that he seldom has to repossess a box and, at the time he was interviewed, had less than 10 delinquent accounts with promises to pay by all but one of these.

One of the things that he has learned in his three years of food plan merchandising, he said, is to maintain a tough credit policy and insist on regular payments. He said that he has found that many of the persons who let their payments slide are well able to make the payments, but don't for one reason or another. When the first letter they receive tells them that if payment is not made, their account will be turned over to his attorneys for action, they pay.

Of course, if the customer has a legitimate reason for not making payment, such as sickness or unemployment, arrangements can be made to ease their burdens, he added.

Another indication of success is the high percentage of repeat orders for food, he commented. His home economist conducts a continuous telephone campaign for food orders, informing customers of new specials and seasonal buys.

While all the original orders are sold on time, repeat orders run about 50-50 cash and credit, he said. He added that the bank has eagerly accepted all his paper and he has had no trouble with the financing.

Ads Aimed at Non-Owners

As his food operation has grown, Staats said that he has started advertising his meat specials in the newspaper, aiming the advertisements at freezer owners not using his plan.

While the advertisements do attract a good share of this trade, one of the big benefits is to catch the eye of his present customers and spur them into placing new food orders.

While Staats emphasizes his choice grade beef and includes cutting, wrapping, quick-freezing, and delivery in the quoted price, he also sells and offers special prices on lower grades of meat for those who want it.

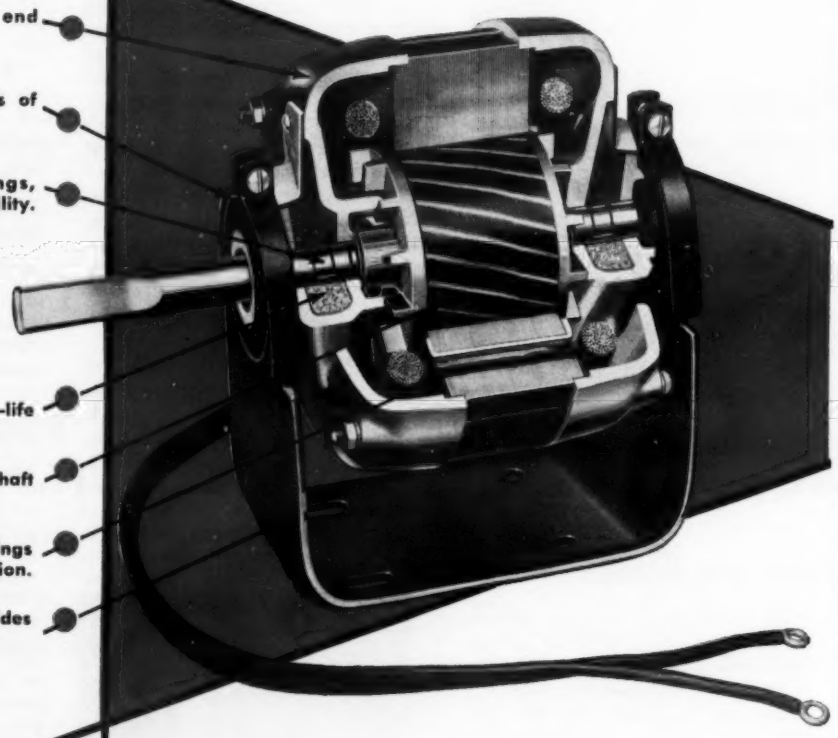
He guarantees in writing that his beef is choice grade and that if it is not all that he says it is, he will take it back.

Another means Staats has used to promote business is to hold a meat cutting demonstration for a local home economics club. He said that he packed 55 people into the lobby of his store for the demonstration.

Incidentally, Staats has one feature in his cutting room that seems a bit unusual. All of his coolers are equipped with hot gas defrost.

Check these 7 BIG reasons why

DELCO SHADED-POLE MOTORS are favorites in their field!



Rugged die-cast aluminum end frames.

Double bonded mounting rings of resilient, oil-resistant material.

Two high-tin-babbitt bearings, widely spaced for greater stability.

Large oil reservoirs provide long-life lubrication.

Aluminum die-cast rotor and shaft dynamically balanced.

Impregnated and baked windings assure moisture-resistant insulation.

Heavy-gauge steel base provides greater rigidity and strength.

Delco shaded-pole motors, available from 1/40 to 1/12 horsepower, are specifically designed to move air in heating, ventilating, refrigerating and air-conditioning applications. They have a long, trouble-free life and operate with a minimum of noise and vibration.

These are some of the reasons why a Delco motor is the best running mate your product can have.

DELCO PRODUCTS
Division of General Motors Corporation
Dayton, Ohio

DELCO DAYTON OHIO

Sales Offices: Atlanta • Chicago • Cincinnati • Cleveland • Dallas • Detroit • Evansville • Hartford • Kansas City • Los Angeles • Philadelphia • St. Louis • San Francisco • Syracuse

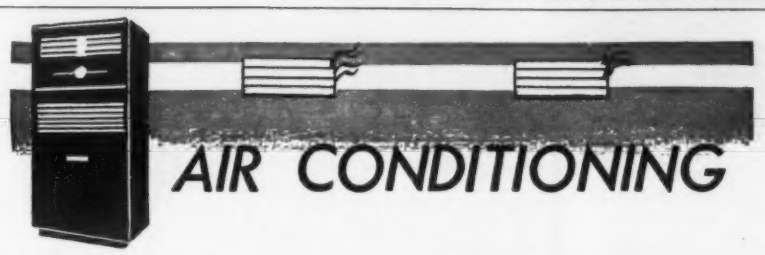
THE BEST RUNNING MATE YOUR PRODUCT CAN HAVE!

ELIMINATE PRODUCTION HEADACHES with DEAN COLD PLATES

"JOB TAILORED" TO YOUR SPECIFIC NEEDS

WRITE FOR TECHNICAL DATA BOOK • ADDRESS DEPT. AC

DEAN PRODUCTS, INC. 1042 DEAN STREET, BROOKLYN 38, N. Y. STerling 9-5400



Roof-Top Packaged Air Conditioners

'Alco Airmaster Units' Designed for Outside Installation On Roof of One-Story Buildings

CLEVELAND—Designed for the purpose of conserving space and overcoming costly installation problems, a package-type air conditioner for outdoor installation on the roof on one-story buildings has been developed by Alco Refrigeration Sales & Service, Inc. here.

These "Alco Airmaster Units" on which patents are pending, are designed to be used with combination supply and return type ceiling air diffusers, and operate with approximately 75% recirculated air and 25% outside air for ventilation.

The units can be mounted directly above the air conditioned space and are connected to the ceiling diffusers with vertical ducts, which usually are about 6 ft. in length.

Constructed for operation with air-cooled condensers, the condensate from the cooling coil drains directly from the roof. Thus the unit uses no water, and plumbing connections are eliminated.

About a year ago, says H. A. Sheehan, president of Alco Refrigeration Sales & Service, Inc., two Alco Airmaster units with gas-fired furnaces were installed in a drugstore and were used throughout both the winter heating and summer cooling season in the past year. Sheehan said that the heating as well as the cooling part of the operation had been satisfactory, and that uniform temperatures were maintained throughout the store.

9 UNITS INSTALLED FOR COOLING ONLY

During the spring of this year, nine Alco Airmaster units for cooling only were installed in three different supermarkets. Each market had about 10,000 sq. ft. of floor area.

These installations were made without disturbing the normal store operation to any great extent, Sheehan says, because it was only necessary to make the opening in the ceiling and the install the ceiling-type air diffuser, all of the other work being done on the roof. He also makes the point that there is nothing of the installation in the store proper but the diffusers and controls, so the installation does not detract from the store's interior appearance. If the combination heating and cooling units are installed, gas-fired unit heaters can be eliminated, further improving the store's appearance.

ADVANTAGES OF ZONE TEMPERATURE CONTROL

Each unit is independently controlled by a start-stop switch and a wall thermostat, and thus provides the advantages of zone temperature control, Sheehan says.

The installer claims that with the ceiling-type diffusers that air distribution is so uniform that air currents cannot be detected, and personnel in the stores in which installations have been made have never complained of cold drafts or other uncomfortable conditions, it is stated. The open self-serve refrigerated display cases have not been affected, and no difficulty has been encountered in maintaining proper temperatures.

COMPONENTS LISTED

The complete Alco Airmaster unit has the following components:

One 7½-hp. motor compressor unit
Direct expansion coil
Liquid receiver
225,000 B.t.u./hr. gas furnace
Air circulating fan
Air filters
Power and control panel.

All this equiment is enclosed in a weather-proof insulated cabinet having air passages so designed that it can easily be connected to a combination supply and return ceiling type diffuser by extending vertical ducts from the unit through the roof and ceiling.

The air-cooled condenser, of course, is installed separately, with short-run refrigerant lines connecting it to the package unit.

Unit without the condenser is approximately 12 ft. long, 3½ ft. wide, 4 ft. high, and weighs 1,750 lbs.

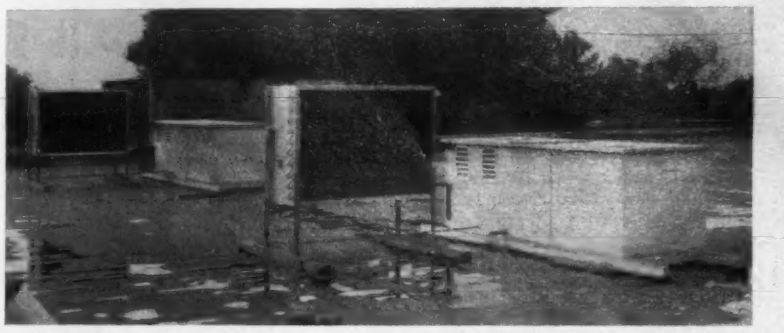
Sheehan says that development of the "roof unit" came out of his company's experience in which it was found that lack of space was one of the most serious obstacles to greater sales of air conditioning equipment to supermarkets and other types of retail stores.

"There has been a trend toward one-story buildings for retail stores, and these buildings are difficult to heat and even more difficult to cool in the summer," Sheehan said. "Many of these buildings have no basements or only very small basements, which has made it difficult to find space for air conditioning machinery.

"The one-story structures are rarely constructed with sufficient space so that air conditioning ducts can be installed above the ceiling. This makes it necessary to run exposed ducts or fir in ducts below the ceiling, which is expensive and does not add to the appearance of the store.

"Package units installed in the sales area use space that is valuable, offer problems in air distribution, and frequently require long runs for service connections."

These were the factors that got the company interested in the matter of designing a package unit for roof installation, Sheehan says.

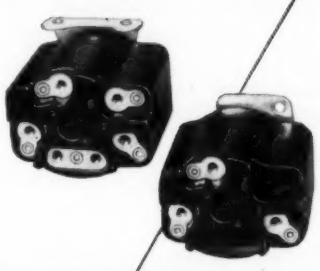


ROOF-TOP INSTALLATION of "Alco Airmaster Units" in a Cleveland supermarket.

STORE AREA of supermarket showing diffuser through which cool air from roof unit passes.

Mr. Air Conditioning Manufacturer

These R-B-M Relays



WILL SIMPLIFY YOUR CONTROL PROBLEMS

● Developed expressly for air conditioning and refrigeration. While designed primarily for capacitor motor starting service, relays are also available with normally open contact rated 1 H.P. —115 Volts and 1½ H.P.—230 Volts A.C. for sequence starting, motor interlocking or general purpose application.

- Totally Enclosed
- Snap-action Contacts
- Non-positional Operation
- Accessible Wiring Terminals
- Underwriters' Approved. File Nos. SA1984 and E12139

Write Dept. M-11 for Details Today.

R-B-M DIVISION
ESSEX WIRE CORPORATION
Logansport, Indiana

Controls for Electronic, Refrigeration, Industrial, Appliance, Communication and Automotive Industries.

From where we sit, the

TYPHOON

DIRECT FACTORY DEAL

is the finest set-up in the business

ON-THE-SPOT DISTRICT MANAGER
always ready to iron out your toughest problems.
FACTORY COOPERATION
right on up to the President! No other company works so closely with you!
LOCAL TRAINING SCHOOLS
right in your own territory to give you the latest on engineering and selling.
GREAT ENGINEERING
means your sales will stick. Finest quality components. Fewer service headaches.
Pull up your chair

- Commercial Air Conditioners
- Residential Year-Round Units
- Home Conversion Units
- Room Air Conditioners
- Packaged Heat Pumps

TYPHOON AIR CONDITIONING CO., INC.
505 Carroll Street, Brooklyn 15, N. Y.

Typhoon Air Conditioning Co., Inc. A12
505 Carroll St., Brooklyn 15, N. Y.

I would like to know more about the Typhoon Franchise.

Name_____
Firm_____
Address_____
City_____ Zone____ State_____

AIR CONDITIONING & REFRIGERATION News

Trade Mark registered U. S. Patent Office; Est. 1926.

F. M. COCKRELL, *Founder*

'The Conscience of the Industry'

Published Every Monday by
BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich.,
Telephone Woodward 2-0924.
New York Office: 521 Fifth Ave.,
Telephone Murray Hill 7-7158.
Chicago office: 134 S. LaSalle St.,
Telephone Franklin 2-8093.
Ohio Office: Commercial Bank Bldg.,
Berea, Ohio. Telephone Berea 4-7719.

Subscription Rates: U. S. and Possessions and Canada: $6.00 per year; 2 years, $9.00; 3 years, $12.00. All other countries: $10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents each; 50 or more copies, 20 cents each. Send remittance with order.

GEORGE F. TAUBENECK
Editor and Publisher

PHIL B. REDEKER, *Editorial Director*

C. DALE MERICLE, *Associate Editor*

JOHN SWEET, *Assistant Editor*
HUGH MAHAR, *Assistant Editor*
GEORGE HANNING, *Assistant Editor*
MARGARET DEAN, *Assistant Editor*
JOY SLAUGHTER, *Editorial Assistant*

E. L. HENDERSON, *General Manager*
ROBERT M. PRICE, *Adv. Mgr.*
ALLEN SCHILDHAMMER, *West. Adv. Mgr.*
RICHARD E. CLEARY, *Adv. Rep.*
ALICE M. BARROW, *Advertising Secy.*
WALTER J. SCHULER, *Production Mgr.*
LLOYD SILER, *Circulation Manager*
CECILIA COSTYN, *Subscription Manager*

Member, Audit Bureau of Circulations.
Member, Associated Business Publications.
Copyright 1954, Business News Publishing Co.
VOL. 73, NO. 10, SERIAL NO. 1,338
NOVEMBER 8, 1954

Let's All Examine That Discount House Problem

Martin & Rabalais, Inc.
Gueydan, Louisiana

Editor:

You sell advertising. Everything, every idea that must be put across is ADVERTISED. Discount Houses seem to get a lot of free advertising as a "new trend" in *Life,* and other consumer magazines.

Since your paper covers so many dealers, why not try to hammer this idea into the dealers—a long-range nationwide advertising campaign selling the LEGITIMATE distribution agencies to the public and WHY, WHY, WHY. Let's pitch in $100 to $1,000 each annually out of our advertising dollars on selling our story to the public. Nationwide, in the hands of a top advertising agency, this will really do the job. Write an editorial on this.

W. A. RABALAIS

Answer:

Mr. Rabalais has a great idea here. *If* it could be arranged, it would be good for manufacturers, great for dealers, helpful to users, and wonderful for the industry. Only hitch (and this is a BIG one): organizing the program, and getting enough dealers to contribute $100 to $1,000 annually, would be a Herculean task.

It is true that retail salesmanship, for too long at low ebb, is being discouraged even more by the discount houses. And, in the long run, more refrigerators, freezers, air conditioners, etc., could be sold by aggressive salesmanship than by regressive discounting.

As our old friend, Harry Alter, puts it so succinctly:

"Discount houses get business from people who know what they want (even to the brand name) and who come in to buy.

They'll Do It Every Time . . . . . Jimmy Hatlo

DONIKER WAS THE GUY WHO DISCOVERED THE FLAW IN THE OTHER BRANCH OFFICES' OPERATION AND WISED UP BOSS-O···
ER-BEG PARDON, CHIEF··· BUT SOME OF THE OTHER BRANCHES ARE VIOLATING THE RULES AND SHIPPING WIDGETS IN BROWN PAPER INSTEAD OF BOXES··RULE 346 SAYS,"WIDGETS MUST ALWAYS BE SHIPPED IN···"
MISS TIDDLEY! HAROOMPH! TAKE A LETTER TO THE MAIN OFFICE··I HAVE··AHEM-HAROOMPH··DISCOVERED THAT OTHER BRANCHES ARE VIOLATING RULE 346 AND ARE SHIPPING WIDGETS IN MANIFOLDS INSTEAD OF BOXES···
BRANCH MANAGER
ONE MONTH LATER: WHO'S AMONG THOSE ON THE CARPET? WHY, GOOD OL' "ON HIS TOES" DONIKER, OF COURSE!
DONIKER! DIRECTIVE FROM THE MAIN OFFICE! VERY UPSET ABOUT WIDGETS SHIPPED IN BROWN PAPER! WATCH IT IN THE FUTURE··· AND NATURALLY YOU SHIPPING CLERKS GET NO RAISE THIS YEAR, DUE TO LOSSES FROM WIDGETS SHIPPED INCORRECTLY!
JIMMY HATLO
THANX AND A TIP OF THE HATLO HAT TO WOOD AVENUE BOYS
COPR. 1954, KING FEATURES SYNDICATE, Inc., WORLD RIGHTS RESERVED.
9-21

For every such person there are hundreds who have not dreamed of buying a dishwasher, for example, but who could possibly be sold one by competent salesmanship. But salesmen and dealers have lost so many sales to discounters that their selling enthusiasm is fast fading—and fewer and fewer people are buying electrical appliances.

"What has become of door-to-door selling and free home demonstrations? These are more expensive methods of moving goods to the consumer than discounting—but still the only methods that are sure to keep our factories busy—and the method, by the way, that will keep retail prices lower. When factory production goes down, as it is now doing nationally under discount house merchandising, costs and retail prices are bound to go up."

Dealer mortality is becoming almost as much of a problem as the absence of good salesmen. Every week, by the dozens, retailers get out of the "white goods" business because it isn't profitable.

In one sense, that situation is promising. Reason: In recent years far too many dealers have been franchised. And, if that trend continues for another couple of years, carefully-erected distribution systems will become demoralized—and as full of holes, on a national scale, as rat-infested Swiss cheese.

Thereupon manufacturers will be left with a lopsided preponderance of outlets which can't and won't promote their future markets.

Now let's look at it from the consumer angle. Discount houses usually operate on a cash-and-carry, no-service policy. Where does that leave the user? Out on a limb! If something goes wrong with his refrigerator, or TV set, or freezer, he may have to wait days until he can locate someone willing to fix it. And, probably, he'll pay through the nose when it is serviced. In the meantime expensive perishable foods spoil, his kids are crying for milk, and his wife is raising Hell about the sad state of appliances in Her home.

How can honest dealers combat this "wave" of cheapness without losing their shirts by discounting also?

Mr. Rabalais proposes a sound solution. The costs of organizing and administering such an advertising-public information campaign might be prohibitive, though.

To our way of thinking there's a simpler solution: Manufacturers should prune their lists of dealers, and eliminate thousands of hangers-on. A few of the more admirable manufacturers have been doing this job recently. Others, short-sighted, will franchise almost anybody whose store isn't upstairs over another dealer, or doesn't share the same entrance.

Anybody who's been in the refrigeration business long enough to dry his ears knows that 10% of the dealers account for 80% of their business.

Ergo: The less these producers are harassed by surplus bargainers, the better able they will be to rebuild *selling* organizations which can insure the future prosperity of our industry. Q. E. D.!

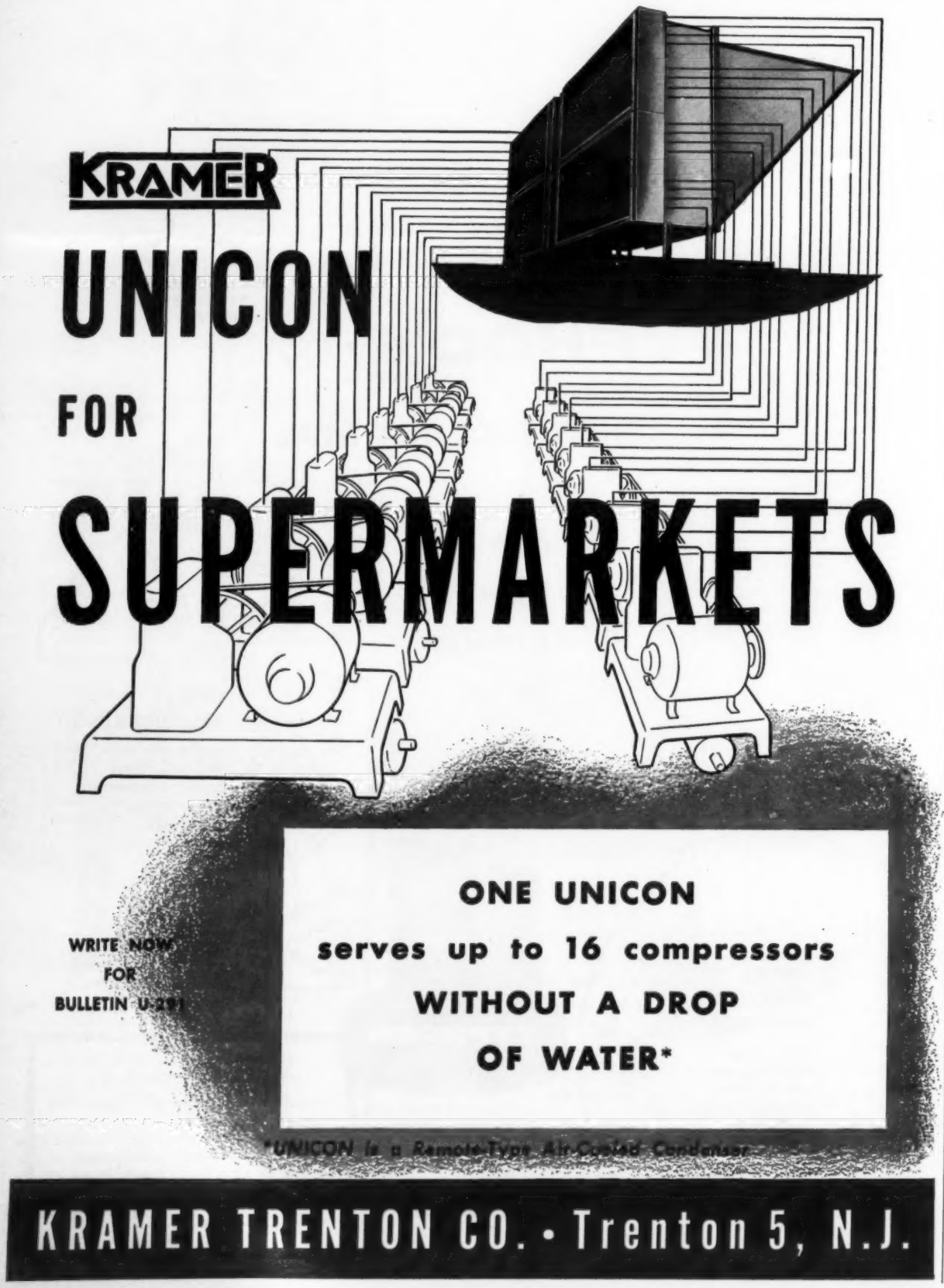
Sometimes a man works all his life, grows old and never gets the things he planned to get, and never knows the reason why.

Yet the reasons are simple. Too often he thinks only in terms of getting. Too often he only *takes;* he seldom *gives.* Ours is a life of giving and getting, but the element of giving comes first.—*R. & R. Magazine.*

A life of knowledge is not often a life of injury and crime.—SYDNEY SMITH.

Many people take no care of their money till they come nearly to the end of it, and others do just the same with their time.

A young man who doesn't weep is a fool. An old man who does not laugh often is a savage.—GEORGE SANTAYANA.



Current Literature

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

Home Appliance Service Guide Has 824 Pages

——KEY NO. P-1120——

NEW YORK CITY — "Audel's Home Appliance Service Guide" for servicemen, mechanics, and dealers was published recently by Theo. Audel & Co.

Written by Edwin P. Anderson, it contains 824 pages divided into 34 illustrated chapters. Page size is 5 by 6½ in. The book covers basic principles, servicing, operation, and repairs of electric appliances; and adjustments and repairs of gas operated appliances.

It is divided into four sections, covering the fundamentals of electricity, resistance heating appliances, motor operated appliances, and gas fired appliances. Almost 600 pages deal with methods of locating troubles, appliance disassembly, and how to make repairs. Wiring diagrams and complete data on more than 30 different home appliances are included.

An entire chapter is devoted to maintenance and repairs of fractional horsepower motors, thermostats, and circuit wiring.

Postpaid price is $4.

Cooling Tower Bulletin Has Simplified Selection Tables

——KEY NO. P-1121——

CHICAGO—Bulletin 312, covering the complete line of standard atmospheric spray cooling towers manufactured by Binks Mfg. Co., is now available.

This new 12-page bulletin "is filled with helpful information for those who specify cooling towers," the company said. "It contains new and simplified selection tables for determining correct tower sizes. All the engineer has to know is the refrigeration load and the cooling range and design wet-bulb conditions. The tables do the rest."

Bulletin 312 also includes full information on the construction details of Binks Type H and T atmospheric towers.

Among features of these standard towers are a balanced spray system with brass clog-proof nozzles; steel louver posts, shop-formed and galvanized after fabrication; slip fit louvers that lock securely in position; all louvers of clear all-heart grade redwood; and heavily coated steel basins.

JUST ASK US
For "easy-to-get" product information . . . use coupon on "What's New" page.

Cochrane's Complete Line Covered by New Bulletin

——KEY NO. P-1122——

PHILADELPHIA — Cochrane Corp. here has published a four-page bulletin, No. 6210, briefly covering its entire line of water conditioning equipment and specialties.

Mentioned in this bulletin are: Demineralizers, hot process, hot lime zeolite, zeolite softeners, reactors, deaerators, dealkalizers, filters, continuous blowoff systems, hydromatic control valves, C-B condensate drainage, multiport relief valves, separators, purifiers, receiver separators, and multiport drainers.

EEI Folder Encourages Appliance Sales Careers

——KEY NO. P-1123——

NEW YORK CITY—Stimulation of appliance sales careers is the aim of a new Edison Electric Institute folder entitled "New Opportunities for You in the Field of Electric Appliance Selling."

Released by EEI's Sales Personnel and Training Committee, it's purpose is to stimulate interest from both prospective and established salesmen in obtaining more complete details on appliance selling careers.

Directed, as the title indicates, toward the individual reader, it is designed for use by electric light and power companies, dealers, electric leagues, manufacturers, trade schools, colleges, and employment agencies, as well as other job-locating civic and service clubs.

It may also prove valuable to job counselors in directing men towards the appliance sales field.

The folder is an adjunct to the Appliance Sales Training Course presently offered by EEI. It can be imprinted or stamped locally with company or organization name.

Tuttle Lists Replacement Appliance Heating Elements

——KEY NO. P-1124——

ADRIAN, Mich.—H. W. Tuttle & Co., manufacturer of electric heating elements, has recently released a new catalog and price list covering replacement heating elements for electric appliances.

Replacement elements for toasters, percolators, hot plates, flat irons, room heaters, ironers, and various other appliances together with replacement spools and replacement coils for general use are included in the new Catalog No. 54,

'Gyra-Flo' Power Exhausters Described In Bulletin

——KEY NO. P-1125——

CHICAGO—The Chicago Blower Corp. has issued a new bulletin GPE-103 which contains detailed information and performance tables regarding its "Gyra-Flo" power exhausters.

These exhausters have been exclusively designed to deliver the greatest volume of air at the very lowest noise level. Special scroll design and discharge vanes permit the lowest possible wheel tip speeds and control the air flow, thereby eliminating air turbulence.

Distribution Data Guide Now on Subscription Basis

——KEY NO. P-1126——

WASHINGTON, D. C. — The Office of Distribution, Business and Defense Services Administration, has announced the conversion of its monthly publication, the "Distribution Data Guide," to a subscription basis commencing with the October, 1954, issue.

Since the first issue in March of this year it has been compiled and published monthly on a free basis.

The *Guide* lists brief annotations of selected recent publications and reports, both government and non-government, which contain basic information and statistics for use in market research, merchandising, sales promotion, advertising, and allied subjects of interest to businessmen and others engaged in the distribution of goods or services.

A year's subscription to the *Guide* includes 12 monthly issues and two cumulative subject indexes which list material annotated in the preceding six months. The annual subscription rate is $2 to a domestic address and $2.50 to a foreign address. Individual copies of the *Guide* sell for 15 cents, and the indexes for 20 cents.

Subscriptions will be received by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., payable by check or money order in favor of the Superintendent of Documents. Subscriptions may also be made through local Department of Commerce Field Service Offices.

Catalog Lists Name Plates For Refrigeration Use

——KEY NO. P-1127——

NEW HAVEN, Conn.—A new catalog sheet K-160 covering additional "Stock" air conditioning and refrigeration name plates is being offered by the Seton Name Plate Co. here.

The Stock name plates are described as 2½ in. by ¾ in., made of metal with a black enamel finish and raised natural aluminum letters and border. They fit on standard toggle switch plates, and are appropriate for air conditioning and refrigeration components including controls.

There are over 100 standard refrigeration and air conditioning wordings listed for immediate shipment. Wordings include Compressor No. 2, Cooling Tower Pump, Oil Pressure Protector, etc. The name plates are designed to generally conform to refrigeration and electrical code requirements.

Plastics Engineering Book Announced by SPI

——KEY NO. P-1128——

NEW YORK CITY—A Plastics Engineering Handbook has been announced by The Society of the Plastics Industry, Inc. This is the second edition of this technical book to be issued by SPI.

Three years in preparation, the 20 chapters have been prepared by more than 200 engineers, technicians, and other authorities in the various branches of the plastics industry who have worked on the 23 different handbook committees of the society.

This handbook is in one volume, of approximately 850 pages, containing more than 500 illustrations, diagrams, charts, tables, and three special fold-out inserts. The information in it covers design, materials, processes, equipment, finishing, assembly, testing, and standards of plastics and plastics products.

The Plastics Engineering Handbook is available at booksellers or direct at $15.

NEW 6 FT. SELF-CONTAINED DAIRY CASE

2 refrigerated shelves — Refrigerated storage — Certified performance — Priced to sell.

For complete information, write:
The C. Schmidt Company, 1712 John St., Cincinnati 14, Ohio.

1 • A COMPLETE LINE OF ELECTRICAL EQUIPMENT
2 • THE COUNSEL OF QUALIFIED FIELD ENGINEERS
3 • IMMEDIATE AVAILABILITY FROM YOUR LOCAL SQUARE D DISTRIBUTOR

SQUARE D GIVES YOU ALL 3!

• You name the air-conditioning job—Square D has the right electrical equipment for it—from the smallest residential installation to the largest commercial or industrial job through 200 HP at 440 volts.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

What Happened In Residential Air Conditioning In '54 In Ft. Worth

1. Is It Booming? 2. Who Is Buying It? 3. Who Is Selling and Installing It?

37 Contractors Give Significant Answers In Detailed Study

By C. Dale Mericle

FORT WORTH, Texas — Residential air conditioning is a booming business here "where the West begins."

Through September of this year 598 air conditioning units had been installed in Fort Worth area residences, compared to 360 for all of last year.

These figures were developed in a study by AIR CONDITIONING & REFRIGERATION NEWS to answer first hand such questions as:

1. Is residential air conditioning really booming?
2. Who is buying it?
3. Who is selling and installing it?

There were some other questions asked, too, and the replies received from 37 Fort Worth contractors bring out revealing and significant answers.

This on-the-spot survey by the NEWS was only made possible by the assistance and cooperation of the Fort Worth Air Conditioning Association, which surveyed its own contractor members for the NEWS, the information volunteered by non-member contractors, and the valued guidance of Texas Electric Service Co., the local electric utility, and the Lone Star Gas Co., gas utility.

All contractors active this year and at least 99% of the installations are believed to have been covered in this survey.

A detailed summary of the NEWS study is given in the accompanying table.

There is no question that residential air conditioning is booming in Fort Worth. Installations in the first nine months of the year were almost double those of 1953 (598 compared with 360, respectively).

And such is the nature of this business that a goodly number of jobs will more than likely be installed during October, November, and December.

That's one of the important advantages of year-round residential air conditioning, most contractors are quick to point out. There's almost as good a market for it in winter as in summer.

As for the boom in this business, most people would not express surprise that sales are going so well in this Texas metropolis, at least if they read the weather reports. Fort Worth, like much of the state, experiences long, hot summers, which should be conducive to the sale of residential air conditioning.

There have been a lot of words written about the *future* of the market for residential air conditioning systems, but remarkably little about *what has actually happened* in the sale and installation of such equipment.

In order to present a *factual* picture of the number and kind of systems that have been sold, and the type of businesses that sold and installed them, the NEWS has sent Associate Editor C. Dale Mericle into some areas that have been good markets this year. He was instructed to report as completely as possible on just what *did* happen in residential air conditioning in those areas thus far this year. A report in the October 18 issue discussed the situation in Wichita, Kan.

The story published on these pages is Mericle's report from Fort Worth, the second area that he visited.

Advertising, Promotion Vital In Growth

But a few short years ago there was no great demand or sale. It was concerted promotional and advertising effort on the part of the Fort Worth Air Conditioning Association that awakened the public (and the bankers who finance it) to the advantages of home air conditioning.

The tabulation of this year's installations in Fort Worth shows that 337 units went into new homes, 240 into existing homes, and 21 into "projects" put up by speculative builders.

Only five contractors said they had put air conditioning into project-type homes, the number ranging from one to seven.

(Incidentally, contractors and others interested had *heard* about extensive installations in housing projects in other cities, but in Fort Worth their experience was that the much-talked-about projects with "complete air conditioning" wound up with very few actual installations. After hearing the identical report from contractors in various other cities, one begins to wonder seriously what the ratio of talk to action regarding installations in project-type housing is on a national scale.)

Few Fort Worth contractors, two to be exact, had limited their installations to new homes, and their jobs totaled 36 units.

Installations of eight contractors, including Contractor No. 2, were exclusively in existing homes. Contractor No. 2 had put in 60 such jobs, he told the NEWS.

The survey also revealed, as shown in the table, that 48 of the units were installed with air-cooled condensers, compared with 550 with water-cooled condensers. Most of the latter had cooling towers.

Although the number of air-cooled units is small, percentage-wise, there is nevertheless a definite trend toward them here.

One distributor, who says he had been quite skeptical about the performance of air-cooled units previously, is now quite enthusiastic.

Air-Cooled Units Cut Service Costs, One Distributor Indicates

"We eliminate 60% of the service calls with air-cooled units," he contends. "That's because 60% of the service calls we've had in the past on residential systems have been due to water problems of one sort or another.

"Power cost of operating air-cooled units is comparable to water-cooled jobs," he also says. "People seem to forget the flywheel effect that engineers have talked about. It isn't 110° F. outdoors 24 hours of the day. The air-cooled unit in my own home, for example, runs most from 6 to 9 in the evening, when the temperature is lower outdoors than the peak for the day. It takes that long for the heat to penetrate the house and affect the unit.

"And if it happens to be humid outside, the air-cooled unit usually works better than water-cooled jobs."

Four different makes are represented in the 48 air-cooled jobs installed in Fort Worth this year.

Another question of great interest to many associated with the new field of residential air conditioning is who is installing it? More specifically, how do the number of installations by old-line air conditioning contractors compare with the residential air conditioning jobs put in by old-line heating firms?

Air Conditioning Contractors Lead In Installations

In Fort Worth the air conditioning contractor's installations are leading those of the heating contractor about three to one, 423 to 145.

Not counted one way or the other are 30 units "self-installed" by the homeowner, according to local records.

(A similar survey made in Wichita, Kan., published in the Oct. 18, 1954 issue of AIR CONDITIONING & REFRIGERATION NEWS, showed a ratio of slightly better than six to one—336 to 55—in favor of the old-line air conditioning firms.)

Virtually all the contractors represented in the Fort Worth survey install heating equipment as well as air conditioning. But the contractors who put in the 423 units ascribed to "air conditioning contractors" came into the picture as air conditioning and/or refrigeration contractors and later added heating to their line.

Heating Contractors Put In 145 Jobs In Area

The "heating" contractors who put in 145 jobs in Fort Worth are so described because their original interest was heating. They may or may not be as well qualified to install air conditioning as the old-line air conditioning contractor. No evaluation of contractors was attempted on that score.

Whether any significance other than mere coincidence should be attached to the following is questionable, but it is a fact that two of the 37 contractors listed in the Fort Worth survey are not in business as of this moment. Both were primarily heating firms and installed a combined total of 46 units, almost a third of the 145 attributed to heating firms. One of the two firms, installer of 34 units, is bankrupt. Exact cause of the other firm's demise could not be learned.

(Incidentally, Fort Worth contractors generally had figured that the now-bankrupt firm had installed "a hundred or two" air conditioning units this year.)

Analysis of Contractors

An analysis of the individual Fort Worth contractors reveals the following:

Contractor No. 1 (67 units) represents an old-line air conditioning manufacturer, but has also installed a few units made by a furnace manufacturer. He has his own sheet metal shop.

Contractor No. 2 (60 units) represents an old-line air conditioning manufacturer. He sub-lets his sheet metal.

Contractor No. 3 (49 units) represents an old-line air conditioning manufacturer. He sub-lets his sheet metal.

Contractor No. 4 (41 units) represents an old-line air conditioning manufacturer. He does his own sheet metal.

Contractor No. 5 (37 units) represents a furnace manufacturer but came into the business through the appliance and refrigeration field. Sub-lets his sheet metal work.

Contractor No. 6 (36 units) represents a line produced by a pioneer manufacturer of refrigeration and air conditioning. Has own sheet metal shop.

Contractor No. 7 (34 units), now out of business, represented a furnace manufacturer. Did own sheet metal.

Contractor No. 8 (30 units), is a dealer for a leading manufacturer of refrigeration and air conditioning equipment. Does not have sheet metal shop.

Contractor No. 9 (28 units)

(Concluded on next page)

"Packaged" Water-Cooled Air Conditioners in 6 models, from 2 to 15 H.P.

"Packaged" Waterless Air Conditioners—no water needed, no plumbing required. 2, 3, 5 and 7½ H.P.

are you prepared to sell any job?

HERE'S EVERYTHING YOU NEED!

You can meet all the requirements of *any* job—when you sell Chrysler Airtemp "Packaged" Air Conditioning! It's the *complete* line with 6 water-cooled and 4 waterless models. The air-cooled, waterless models have been proved in thousands of installations. And only Chrysler Airtemp has 5 and 7½ H.P. air-cooled, waterless models.

There are other ways, too, in which the Chrysler Airtemp Franchise can give you competitive advantages that will pay off in more sales of "Packaged" air conditioning. Write today for complete details. Airtemp Division, Chrysler Corporation, Dayton 1, Ohio.

CHRYSLER AIRTEMP DIVISION OF CHRYSLER

Air Conditioning's other name... Chrysler Airtemp

AIR CONDITIONING • HEATING FOR HOMES, BUSINESS AND INDUSTRY

Residential Air Conditioning

Ft. Worth Home Air Conditioning Survey--

(Concluded from preceding page)

represents a furnace manufacturer. Has own sheet metal shop.

Contractor No. 10 (20 units) represents two lines, but has installed more units produced by old-line refrigeration manufacturer than units turned out by furnace manufacturer, he says. Does his own sheet metal work.

Contractor No. 11 (20 units) represents old-line refrigeration and air conditioning manufacturer. Sub-lets his sheet metal.

Contractor No. 12 (19 units) installs units of old-line air conditioning manufacturer. Sub-lets sheet metal.

Contractor No. 13 (18 units) represents old-line refrigeration and air conditioning manufacturer. Sub-lets sheet metal.

Contractor No. 14 (14 units) represents old-line air conditioning firm. Sub-lets sheet metal.

Contractor No. 15 (12 units) represents a furnace manufacturer. Does own sheet metal.

Contractor No. 16 (12 units), now out of business, represented a furnace manufacturer and had own sheet metal shop.

Contractor No. 17 (nine units) installed three different makes. Sub-lets sheet metal.

Contractor No. 18 (eight units) likewise installed three different makes and sub-lets sheet metal work.

Contractor No. 19 (eight units) represents an old-line air conditioning and refrigeration manufacturer. Sub-lets his sheet metal.

Contractor No. 20 (six units) represents an old-line air conditioning manufacturer. Has own sheet metal shop.

Contractor No. 21 (six units) represents an old-line manufacturer of air conditioning and refrigeration. Sub-lets sheet metal.

Contractor No. 22 (five units) represents a pioneer manufacturer of air conditioning. Does own sheet metal.

Contractor No. 23 (four units) has installed three different makes. Does not do his own sheet metal.

Contractor No. 24 (four units) likewise has installed three different makes and sub-lets his sheet metal.

Contractor No. 25 (three units) represents an old-line refrigeration and air conditioning manufacturer. Sub-lets sheet metal.

Contractor No. 26 (three units) installed two different makes. Has own sheet metal shop.

Of the remaining 11 contractors, Nos. 27 through 30 installed two units each; Nos. 31 through 37, one unit each. None of these 11 contractors does his own sheet metal work. Six different lines, all made by air conditioning manufacturers, are represented in the 15 units installed by these 11 contractors.

Service Problems

One of the questions asked Fort Worth contractors in the NEWS survey concerned service problems peculiar to residential air conditioning.

Most contractors said they had run into nothing unusual along this line. One firm, however, said problems caused by poor water had given rise to most of its service calls. Another mentioned "electrical troubles" as his chief service problem. A third commented, "75% of the problems have been connected with condenser water at tower pump or condenser." Noise was cited by two firms.

A Fort Worth parts wholesaler also threw some light on service problems in the residential field, citing one case of a heating man now installing air conditioning.

3 Hermetic Compressors Returned

"Over a period of a very short time, this contractor had returned three semi-hermetic compressors to us as being faulty, all from the same job. We were somewhat suspicious when he brought the second one back, but when the third one came in, we insisted on going with him to see what was wrong," said the wholesaler.

"Then we discovered that he was simply turning the unit on before opening the valves on the compressor. No wonder the valve reeds were breaking."

90-Day Guarantee Offered

Another question asked contractors here concerned the length of service warranty extended to customers. Contractors everywhere should be interested in an important change now going into effect as the result of promotional efforts of the Fort Worth Air Conditioning Association.

Instead of the usual one-year guarantee, most contractors are now offering, or planning to offer, a 90-day guarantee. This in no way changes the factory warranty, which in almost every instance runs five years on the motor-compressor unit and one year on all other components.

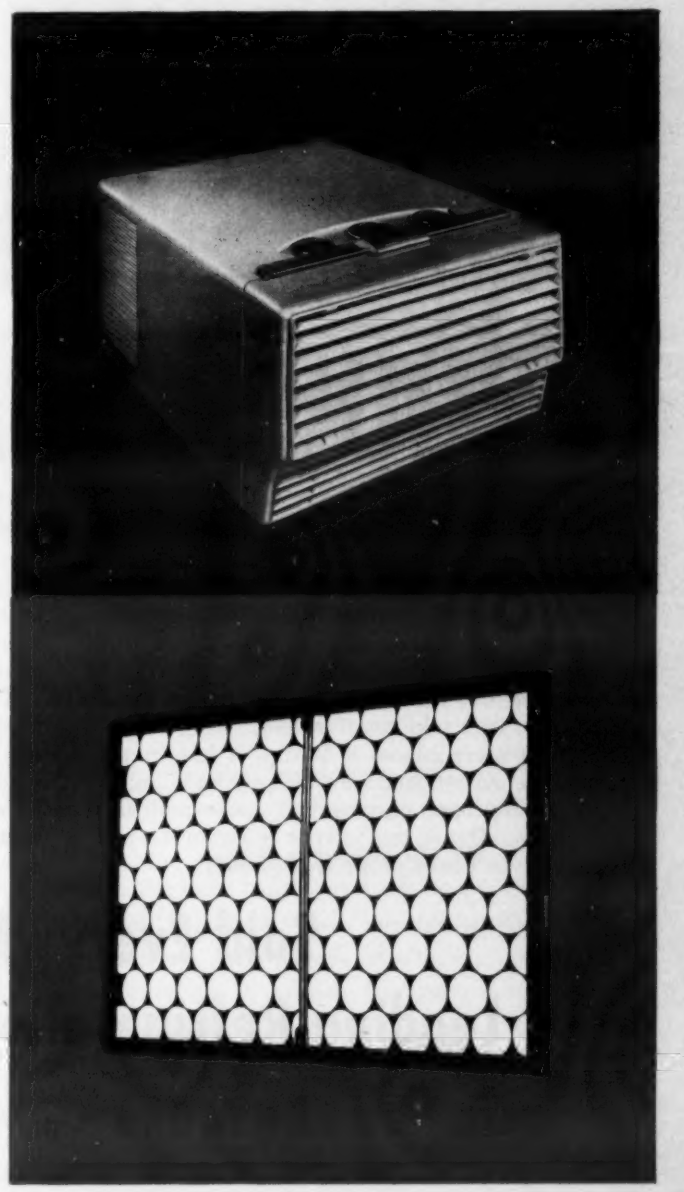
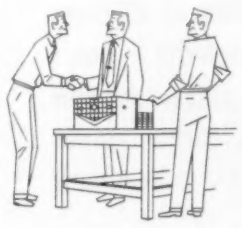
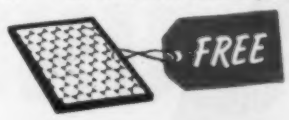
The 90-day free service guarantee is intended to cover 90 days of the cooling season from the time of start-up. The customer who has a year-round system installed in November, say, will get 90 days of free service on the cooling system beginning when he has the contractor start the cooling unit the following May or June, say.

According to the contractors, little or no objection has been raised by the public, which still has the protection of the factory warranty on parts but can expect free labor for only 90 days.

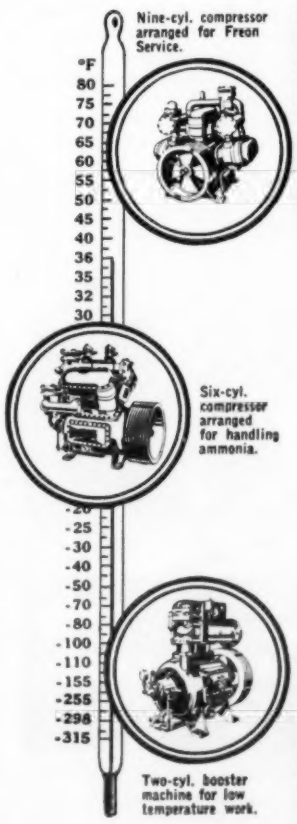
Residential Installations In Ft. Worth

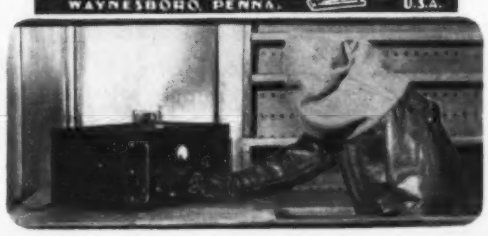
Contractor	Total Units This Year	New Homes	Existing Homes	"Projects"	Air Cooled	Water Cooled
1	67	45	22	....	10	57
2	60	....	60	....	12	48
3	49	43	5	1	2	47
4	41	24	10	7	1	40
5	37	32	3	2	....	37
6	36	15	14	7	....	36
7	34	34	....	....	....	34
8	30	20	10	....	....	30
9	28	20	8	....	....	28
10	20	17	3	....	3	17
11	20	16	4	....	....	20
12	19	6	13	....	15	4
13	18	12	2	4	....	18
14	14	5	9	....	1	13
15	12	9	3	....	....	12
16	12	6	6	....	....	12
17	9	5	4	....	....	9
18	8	3	5	....	....	8
19	8	3	5	....	1	7
20	6	3	3	....	2	4
21	6	3	3	....	....	6
22	5	2	3	....	1	4
23	4	2	2	....	....	4
24	4	1	3	....	....	4
25	3	1	2	....	....	3
26	3	2	1	....	....	3
27	2	1	1	....	....	2
28	2	2	....	....	....	2
29	2	1	1	....	....	2
30	2	1	1	....	....	2
31	1	....	1	....	....	1
32	1	....	1	....	....	1
33	1	....	1	....	....	1
34	1	....	1	....	....	1
35	1	....	1	....	....	1
36	1	....	1	....	....	1
37	1	....	1	....	....	1
"Self-installed" by owner	30	3	27	....	....	30
Total	**598**	**337**	**240**	**21**	**48**	**550**

SUPER-FLO
FILTER-DRIER
UP TO 5 TONS
NO PRESSURE DROP
MOLDED REMCAL DRYING
FIBERGLAS DEPTH FILTERING
Check Super-Flo's amazing low price, for both original equipment and replacement, against ordinary driers which do not have Super-Flo molded drying elements, massive fiberglas depth filters and spun-end copper shells. Available to the trade through wholesalers everywhere.
REMCO INCORPORATED ZELIENOPLE, PA.

Remington
engineers used slide rules and common sense

...and made their filter choice:
®AMER-glas

When new model Remington Room Air Conditioners posed a problem about air filters, and source of supply, Remington engineers got busy. They shopped filters—tested filters—retested filters. AMER-*glas* engineers, called in to help, custom-designed the correct AMER-*glas* FILTERS for the job. All signs pointed to the superior performance of the AMER-*glas* test models. At the same time, Remington executives were happily discovering the vast production capacity of AAF's new filter plant, and the coast-to-coast availability of AMER-*glas* FILTERS at the consumer level. With easy logic, then, AMER-*glas* became the natural filter choice for all Remington Room Air Conditioners.
Give *your* product a bonus in better performance—with custom-designed AMER-*glas* FILTERS. Why not talk it over with AAF? You will not be obligated.
GET A FREE TEST SAMPLE of AMER-glas


—the filter that has become the talk of the air conditioning industry. Make your own filter tests—or use the facilities of our test laboratories.
AAF American Air Filter COMPANY, INC.
109 Central Avenue, Louisville 8, Ky.



There's an "ECLIPSE" Machine for Every Refrigerating and Air Conditioning Need . . .
Whether you want to cool air, supply cold water or brine, make ice, keep foods fresh, do quick freezing, or conduct research at 140 deg. below zero, you can do it best with Frick "ECLIPSE" compressors. These machines, famed for their compactness and dependability, handle any refrigerant—at any temperature. Get the whole story from your Frick Branch or Distributor, or write for Bulletin 100-F . . .
DEPENDABLE REFRIGERATION SINCE 1882
FRICK CO.
WAYNESBORO, PENNA. U.S.A.


Pyle-National Purchases Burgess-Manning Patents

CHICAGO — Pyle-National Co., manufacturer of electrical and air conditioning equipment, has purchased all patents covering the basic principle of "Multi-Vent," as well as "Accousti-Vent," from Burgess-Manning Co., of Libertyville, Ill., it was announced recently by Harold V. Engh, president of Pyle-National

The purchase of these patents augments those issued to Pyle-National in recent years, and makes Pyle-National the sole owner of all patents covering this system of air distribution, it was stated.

For a number of years Pyle-National was licensed to manufacture and market Multi-Vent air diffusing ceiling panels, under an exclusive license arrangement with Burgess-Manning. However, with the purchase of the Burgess patents, Pyle now has the exclusive rights to supply this type of low velocity air distribution equipment in the commercial, industrial, and transportation fields, the company said.

New Bank Air Cooled

AVISTON, Ill.—The State Bank of Aviston has just occupied its newly-completed, fully air conditioned building, it has been reported here recently.

Glass Fibers Names 5 Regional Sales Mgrs.

TOLEDO—Appointment of five regional sales managers for Glass Fibers, Inc. has been announced by R. W. Capaul, vice president and general sales manager.

They are S. Austin Marquis, Edward A. McCabe, John B. Banks, Robert E. Simpson, and Ken C. Settelmyer.

Marquis was made Detroit regional sales manager, supervising sales in Michigan, Ohio, Indiana, and Kentucky. He will also serve as special representative and sales consultant for Glass Fibers to the automotive industry. Previously, Marquis had been territory representative in the Philadelphia, Washington, D. C., and Boston areas.

McCabe was named New York regional sales manager with headquarters at the company's offices in the Chrysler East building. He will supervise sales in eastern New York, northern New Jersey, Delaware, eastern Maryland, and all of the New England states. He had previously been manager of the New York branch office of the company.

Banks was appointed regional sales manager of the Philadelphia region, headquartering in Philadelphia, supervising sales in Pennsylvania, western New York, West Virginia, and southeastern Ohio. He had previously been territory representative for glass fibers in Philadelphia.

Simpson was made Atlanta regional sales manager, supervising sales in Georgia, Florida, the Carolinas, Virginia, eastern Tennessee, Alabama, Mississippi, Louisiana, Oklahoma, and Texas. He had previously been branch manager at Atlanta.

Settelmyer was named Chicago regional sales manager with the following states under his jurisdiction: Illinois, Wisconsin, Minnesota, Iowa, Missouri, Arkansas, western Tennessee, Kansas, Nebraska, North Dakota, South Dakota, and Upper Michigan. Settelmyer had previously been manager of the Chicago branch office, the company further stated.

Barnes Mfg. Co. Appoints Mader Eastern District Sales Mgr.

MANSFIELD, Ohio — Fred B. Hout, vice president in charge of sales for Barnes Mfg. Co. here, has announced the appointment of Ralph C. Mader as district sales manager.

Mader will cover New York and the New England states in the sale of Barnes water systems, brass goods, and centrifugal pumps. He was formerly associated with Smith Hardware Co. of Columbus, Crane Co., and Allied Building Credits, Inc., and served four years in the Service with the Corps of Engineers.

The Observation POST

The author of this column, which will appear from time to time in the News, was a pioneer refrigeration supplies and equipment wholesaler, and is a past president of the Refrigeration Equipment Wholesalers Association. He is currently acting as an independent consultant on matters pertaining to the distribution of refrigeration equipment and supplies. The ideas and opinions as expressed in this column are strictly the writer's and are not to be construed as those of any other individual or organization with which he is connected. Correspondence for the attention of Mr. Small should be addressed to him at 1811 Whitley Ave., Los Angeles 28, Calif.

What Constitutes Good Packaging?

By Huntington W. Small

I once carried on a crusade for improved packaging of refrigeration and air conditioning supplies products designed for the wholesaler's shelves. The timing was inopportune as manufacturers and wholesalers were plagued with more urgent matters.

That the opportunity for improvement still exists was evident from the condition of a wholesaler's shelves that I've seen recently. In many cases, changes in package design need not increase manufacturer's costs. They would probably be reduced in more instances than increased.

Just what constitutes good packaging? To me, a good package:

1. Is firm enough to support a tier at least 12 in. high without the bottom package distorting.
2. Contains full information for identifying its contents on the end, or side which is designed to be viewed from the aisle.
3. Is of the best size and shape which the contents permit, to fit into conventional shelving without unnecessary waste of space.
4. Avoids rounded sides and top so that a tier of packages 12 in. high shall stand unsupported without wobbling.
5. Shall have eye appeal.
6. Can be opened without tearing, the contents removed for inspection, and the package reclosed (all without special tools or blueprints).

The fifth item has long since been so well recognized that the refrigeration industry need not take a back seat for any other group wholesaling metal products.

When a wholesaler removes a half dozen items from his shelf and sees the next tier of packages fall into the opening he usually calls on the wrong person for damnation.

Unless the stockman is a paragon of neatness, the heap usually remains just that way until someone has to paw through them to see how many are ⅜ in. or ½ in. so that he can tell the fellow on the other end of the phone.

The force of explosions is sometimes determined by the tumbling down of cylinders with various base areas and similar heights. I wonder what such a tumble or wobble test would show on the products normally found in wholesaler's shelves?

Certain waxed cartons are hard to write on and some wholesalers still like to add information of their own to the cartons. Some wholesalers even like a little space left for such markings but then we must admit that some wholesalers have peculiar ideas.

ARE YOU SURE YOU'VE NEVER HAD TROUBLE WITH OIL?

A recent survey of refrigeration failures and their causes showed that oil was blamed in less than 0.1% of the cases. Moisture, expansion valves and strainers were thought to be culprits almost 20% of the time. On the surface, this looks good for refrigeration oils. But before you cross oil off your list of possible causes of trouble, let's take another look.

If moisture causes a failure, it has to get into the system somehow. Sloppy handling of oil or improper purging can cause moisture problems. But so can inferior refrigeration oils that haven't been properly processed.

Strainers, expansion valves, and capillaries shouldn't really be listed as the cause of failure if they're clogged. The real culprit is the stuff that is passing through them. Here again, inferior refrigeration oils that form sludge or contain too much wax are often to blame.

The best way to avoid a lot of call-backs is to use Suniso . . . the refrigeration oil that is used and recommended by most refrigeration manufacturers. Controlled from crude to can by oilmen, Suniso always assures you of both uniformity and high quality . . . it eliminates all your oil problems.

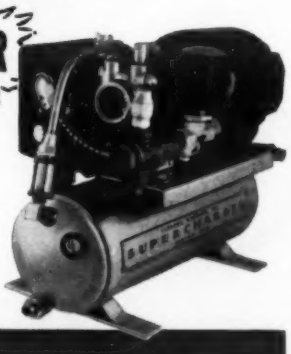
Sold Everywhere by Leading Refrigeration Wholesalers

SUNISO ADVANTAGES • provides adequate lubrication at all temperatures encountered in service • possesses a high degree of stability • won't throw out wax deposits under low temperatures • has extremely low moisture content • resists formation of corrosive acids and carbon under service conditions • separates readily from refrigerant—won't react adversely

SUNISO REFRIGERATION OIL
A PRODUCT OF SUN OIL COMPANY

When It Comes to Carbonators . . .
WHAT'S BEST FOR YOUR CUSTOMERS IS DYNAMITE FOR YOUR SALES!

THAT'S THE SUPERCHARGER CARBONATOR BY CARBONIC DISPENSER



INCORPORATING THESE SUPERIOR FEATURES

1. Patented jet foamescent method produces highest degree of carbonation possible—93% to 100%. U. S. Patent #2,588,677.
2. Minimum number of moving parts, plus "Pump Sentinel," Carbonic Dispenser's exclusive fool-proof pump protection device, is users' insurance against costly repair bills.
3. Midget size—16"x13½"x9½". Giant Capacity—100 gallons per hour.

THE PREFERRED CARBONATOR—FROM NEIGHBORHOOD TAVERNS TO THE NATION'S FAMOUS COCKTAIL LOUNGES, FROM DRUGSTORES TO MAJOR LEAGUE BALLPARKS.

MAIL THIS COUPON TODAY

For literature outlining the opportunity now open to make bigger profits selling Carbonic Dispenser Equipment.

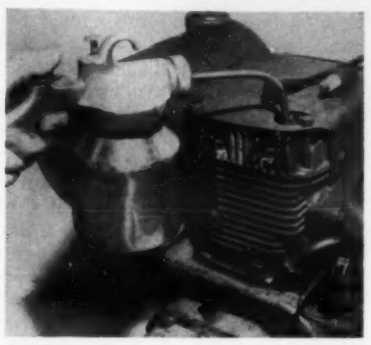
Name.....
Address.....
City..... State.....

CARBONIC CD DISPENSER INC.

General Offices: Canfield, Ohio
Branch Offices:
1851 Randolph St., Los Angeles, Calif.

IN CANADA: GENERAL EQUIPMENT CORP., LTD., TORONTO, ONT.

SPRAYING VPI into tool-chest keeps rust off tools.



INTERNAL PARTS of engines, compressors, pumps, and the like are kept rust-free by injecting VPI-250.

VPI-250 Gives Quick Corrosion Protection

NEW YORK CITY—A new addition to its line of volatile corrosion inhibitors, VPI-250, has been announced by the Shell Oil Co.

Portions of this crystalline amine nitrite compound volatilize very rapidly and will prevent rust almost immediately. At the same time, some of its constituents evaporate more slowly, for longer-lasting protection, the company said.

In addition to offering quicker yet longer rust prevention, the new material also flows more freely than any available heretofore, Shell claims.

VPI-250, a white powder about as fine as talcum, will not clog a flocking gun, and can easily be applied with a squeeze bottle, a salt shaker, or any similar device. Where spraying or dusting of the VPI is impractical, the powder may be dissolved in alcohol and applied in solution. Other methods of application are currently being tested.

VPI-250 possesses several important advantages in fighting corrosion. First, the material does not have to be applied directly to the surface it is to protect. If a quantity of the powder is simply dropped into an enclosed space, its vapors will penetrate even into hard-to-reach areas and condense on all surfaces.

Second, the minute crystalline film of VPI does not have to be removed from equipment before it is placed into operation, as would be the case with grease or petroleum.

Third, only small quantities of the material are required for complete protection in shipment or or storage, or between successive processing steps.

Fourth, small items, such as tools, can be removed from a VPI protected atmosphere, used, and then replaced without the need for any additional rust-preventive measures.

'Freon-22' Again Available At 29 Regional Warehouses

WILMINGTON, Del.—Increased production through improvements in manufacturing techniques has permitted restocking of small cylinder quantities of "Freon-22" monochlorodifluoromethane in 29 regional warehouses throughout the country, Du Pont Co. announces.

"Freon-22" had, since early this year, been available only from the company's Carney's Point, N. J. plant. Now, the material can be obtained in 9, 22, and 125-lb. cylinders at any of the company's "Kinetic" Div. warehouses.

The announcement of warehouse stocking follows by only a few days the company's reduction of the price of "Freon-22" by 5.1 cents per pound, made possible, it said, by more efficient plant operation and increasing volume of use.

Honeywell Names Walker Buffalo Branch Manager

MINNEAPOLIS — Appointment of Gerald G. Walker, Jr. as branch manager of the Buffalo sales office of Minneapolis-Honeywell Regulator Co. has been announced by Gavin S. Younklin, general sales manager.

Walker succeeds R. W. (Bob) Forster, who recently was named branch manager at Boston.

Since 1953, Walker has been district manager in Saginaw, Mich. Previous to that assignment he served for 10 years as industrial salesman in Saginaw and Detroit.

He is being succeeded as district manager at Saginaw by Henry W. Araucz, who has been branch industrial sales manager in Columbus.

Araucz has been with Honeywell since 1945.

Tool Exhibit Planned For November 10 By 4 Groups In Detroit

DETROIT—An exhibit tracing the development of human civilization through its tools will be presented to a combined meeting of the local chapters of the Refrigeration Service Engineers Society, the American Society of Refrigerating Engineers, the Refrigeration and Air Conditioning Contractors Association, and the National Association of Practical Refrigerating Engineers in the CIO Hall at 20424 John R at 8 p.m. on Wednesday, Nov. 10.

The exhibit, "Civilization through Tools," will be explained and described by C. G. Schelly, managing director of the Wilkie Foundation, which prepared and owns the exhibit. Schelly, a scientist, inventor, and author, was largerly responsible for the research that went into collecting and compiling the exhibit.

The exihibit is presented under the sponsorship of the DoAll Co., manufacturer and distributor of machine tools. The DoAll Co. is owned by the Wilkie brothers who created the non-profit Wilkie Foundation.

Business Name Filed

BUFFALO—A business name has been filed in the Erie County clerk's office for Santillo Appliance Service Co., 390 Spring St., by Francis R. Santillo.

Dr. Walker Appointed 'Genetron' Consultant

NEW YORK CITY — General Chemical Div., Allied Chemical & Dye Corp., announced recently that Dr. Walter O. Walker, Dean of the Division of Research and Industry at the University of Miami, has been appointed research consultant to the company on its line of "Genetron" fluorinated hydrocarbon refrigerants.

Dr. W. O. Walker

A leader in the field of refrigeration chemistry for over 20 years, Dr. Walker will work in close cooperation with General Chemical's research and technical service departments on special phases of the company's refrigerant development program.

According to a company spokesman, the current activities of Dr. Walker and his staff at the University of Miami will be concentrated on helping solve common problems of refrigeration engineers and servicemen involving fluorine refrigerants.

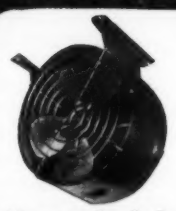
Dr. Walker's program with General Chemical also will involve long-range basic research studies which are expected to prove of "value and service to the entire refrigeration and air conditioning industry."

Dr. Walker is a past director of the American Society of Refrigerating Engineers and a member of the Refrigeration Service Engineers Society. He has served on the educational and examining board of the latter society since 1945.

A holder of many patents in the United States and Canada, he is also a regular contributor to leading technical publications in the chemical refrigeration field.

Prior to his post at the University of Miami, Dr. Walker for 15 years was director of research for the Ansul Chemical Co.

Buy Peerless FOR PERFORMANCE



The PIE PLATE UNIT

Unmatched for Efficiency

Here is today's outstanding refrigeration value. The Peerless Pie Plate Coil Unit delivers maximum efficiency because it utilizes *all* of the cooling surface. Its compact design permits it to fit into less space.

The power-packed *round* coil of improved evaporator design is ideally suited for use in soda fountains, direct draw bars, reach-in refrigerators and similar cooling applications. It has all-aluminum casing and brackets; aluminum fin surface on copper tubing; oilless fan motor. Available in three sizes, with or without drain pan. Write for detailed information.

Peerless of America, Inc.
1501 No. Magnolia Avenue
Chicago 22, Illinois, U.S.A.

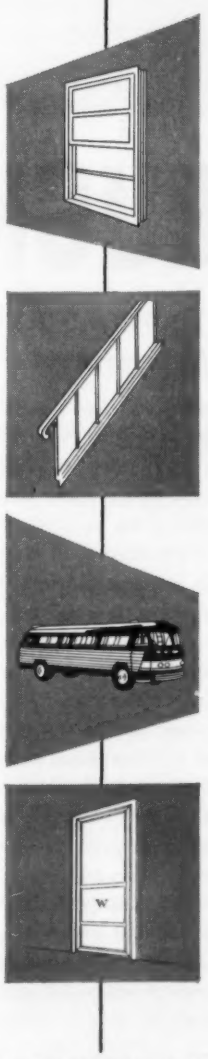
IDEAL Speed-Freeze PRODUCTS

BEVERAGE COOLERS AND INSTANTANEOUS DRAFT BEER COOLERS. (With Refrigerated Faucets)

WRITE
IDEAL COOLER CORPORATION
2953 EASTON AVE - ST. LOUIS 6, MO.

Redmond
MICROMOTORS
One of largest stocks in the world!
FACTORY DISTRIBUTORS
CYCLO-FREEZ CORP.
MARVIN L. "FERGIE" FERGESTAD
P.O. Box #6, Dept. A, Mpls. 16, Minn.
MOhawk 9-6794

Something NEW has shaped up at WOLVERINE



Prime Windows and Doors

Architectural and Decorative Shapes

Transportation

Combination Storms and Screens

Here's BIG news for product design engineers. Wolverine has parlayed its Tubemanship ability into the manufacture of extruded aluminum shapes.

And the results: brand new horizons for designing.

Wolverine aluminum extrusions are light, yet strong. They can't rust, need not be painted. And most important, Wolverine can produce extruded aluminum shapes to your specifications. After all, Wolverine has done it with tubing for years.

There are plenty of other advantages to Wolverine extrusions, too. Just write—today—for complete details. Alloys? 1100 (2S), 3003 (3S), and 6063 (63S). WOLVERINE TUBE, Division of Calumet & Hecla, Inc., 1413 Central Avenue, Detroit 9, Michigan.

Be SURE to specify Wolverine extruded aluminum shapes

WOLVERINE TUBE
DIVISION OF CALUMET & HECLA, INC.
Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.
EXPORT DEPARTMENT, 13 EAST 40TH STREET, NEW YORK 16, N.Y.

COOLING TOWER DESIGN, APPLICATION

Selecting Equipment Which Meets Customer, Engineering Requirements

This is the third and final instalment of a discussion on cooling tower design and application which was presented before the sixth annual conference of the Mid-West-RSES association in Wichita, Kan. by O. L. Michael of Santa Fe Tank & Tower Co., Inc.

"If we consider gears as standard mechanical equipment applied to the special operating conditions imposed by the cooling tower, the first question to answer is: In what respect are the operating conditions on a cooling tower different from standard operating conditions?

"The answer is—the essential difference is in the type of foundation on which the gears are mounted. In the standard installation, the gear will be mounted on a rigid concrete block, in the induced draft cooling tower on a more or less flexible wooden structure. High frequency vibrations on the cooling tower gears will cause fatigue stresses in all parts and reduce the life of the equipment.

"It follows that the cooling tower gear must be built more rigidly, with larger safety factors on the gears, the shafts, and the bearings in order to make the life of the cooling tower gear equal to that of the standard gear. In addition, some operating conditions peculiar to cooling tower operation must be considered.

"The gear works in an atmosphere of saturated air at high temperature. Condensation of water vapor will take place when temperatures drop and a layer of water will accumulate. Provisions for draining and 'breathing,' that is, discharging vapors into the outside atmosphere, must be made. Easy maintenance requires oil gauges on the outside of the tower.

Gear Lubrication

"Lubrication must be more carefully considered and forced lubrication for prevention of wiping, particularly when starting at low temperatures, with high viscosity lubricating oils becomes desirable. Outside of these conditions the gear is a standard piece of equipment and requires no special specifications from the standpoint of design and materials.

"The span of transmission shaft between motor and gear bearings is quite large and the introduction of intermediary bearings undesirable due to the difficulties of lubrication and maintenance. The dimensions of this 'floating shaft' must therefore be such that the operating speed is at least 15-20% below the first critical speed, and with the large unsupported lengths involved, the shaft diameters become large. Hollow shafts are preferred, since their moments of inertia can be made large without increasing the weight unduly.

Type of Motor Depends On Installation

"Motors employed in cooling tower operation are standard motors and whether splash-proof, totally enclosed, or explosion-proof motors are specified will depend on the particular conditions of the installation in question.

"California redwood lumber as a material for cooling tower construction has become a tradition by now. Earlier, the swamp cypress, probably a superior lumber to redwood, was used extensively. But since its practical exhaustion, redwood in cooling towers has held its place and up to today no other wood has appeared that attempts to compete with it.

"Such an exclusive position must be well deserved. Indeed the reasons are not hard to find. One of the important requirements of cooling tower lumber is absence of sapwood, and this in itself means that cooling tower lumber must be cut from large trees, since in small trees the ratio of clear heart redwood to the total volume is too small to be economical.

"California redwood trees grow to great size and age. The trees that are cut for lumber measure from 4 to 12 ft. in diameter at the butt, and their age ranges from 400 to 1,500 years. This great age, and the large size of the logs provides a large volume of soft, close grained clear lumber that can be produced in any reasonable length and width.

Decay Resistance

"The second requirement of cooling tower lumber is decay resistance. And in this respect the heartwood of California redwood possesses unusual durability even under conditions favorable to the growth of fungus decay and to termite and other insect attack. California redwood is rated by the U. S. Forest Products Laboratory as one of the most durable woods.

"The third requirement of cooling tower lumber is reasonable strength. California redwood, although not the strongest of woods, and in spite of its softness which makes it easily workable, is a sufficiently strong wood to be suitable as structural timber for cooling tower construction. This combination of qualities seldom found in other woods is the reason for the predominant position of California redwood in the cooling tower industry.

"Of the many grades of lumber produced from the redwood tree, the two highest all heart grades only are employed in cooling tower construction.

Rate of Deterioration Varied by Conditions

"In spite of the excellent qualities of redwood as compared to other woods, it will deteriorate in time. The rate of deterioration will, of course, depend upon the operating conditions it is subjected to, and particularly upon the chemical character of the circulating water with which it is flooded," Michael explained.

"The cooling tower in a circulating water system is only one of a group of other types of equipment. In fact, up to today, it has been considered the least important one. That it is economical to spend money in water treatment in order to protect the equipment of the system, and increase its life, is an admitted fact. Only for a long time the system of water treatment was solely designed for the protection of everything else except the cooling tower.

"No wonder, then, that wood deterioration in cooling towers at a rapid rate has been found in some installations. More wonder that the frequency of this occurrence has been surprisingly small. With the increased importance of the capital investment in cooling towers in the system, its protection is being more and more considered.

"Now, the most general description of a circulating water system would be that it consists of some types of heat exchangers with metal tubes through which the water flows, and of piping connecting the exchangers to the cooling tower.

"The requirements of protecting the metal are somewhat different than the requirements of protecting the wood. For example, if the circulating water is kept on the alkaline side, it would be a good protection of the metal against corrosion, but would at the same time be detrimental to the wood.

"Some system of water treatment that is capable of protecting both metal and wood at the same time must be devised. Fortunately, the trend in water treatment for the protection of metal has lately undergone changes in a direction which makes it equally suitable for wood protection.

"Before discussing these trends, however, it is necessary to outline what wood has to be protected against.

"For years various types of wood deterioration had been observed and described. A bulletin lately issued by the California Redwood Associated entitled 'Cooling Tower Wood Maintenance Study' (Index No. 5 31320) not only summarizes this work, but draws conclusions from a statistical analysis of data obtained from the inspection of 103 industrial cooling towers, operating in the Gulf Coast area from Brownsville, Texas, to Baton Rouge, La., and ranging in age from a few months to 22 years, and including all commercially available types and designs.

Types of Deterioration

"There the various types of wood deterioration are brought into the three following classifications, and we quote:

"'*White Surface Deterioration:* This is the term used to describe the condition formerly called "delignification." White surface deterioration is evidenced by a surface layer of white fibrous material. In intensity, the condition may vary from occasionally visible isolated fibres to a thick bed of fibres. The internal wood appears sound.

"'White surface deterioration occurs primarily in the fill and other parts of the tower covered by flowing water. It has been observed to a lesser extent on the outer casing, louvers, and other parts where spray or mist may fall and evaporate. In low humidity climates, the deterioration may become very intense in these areas which are alternately wet and dry.

"'*Brown Surface Deterioration:* This type is exidenced by a brown, crumbly surface layer similar to the brown cubical rots in appearance. In the early stages the surface may be smooth, but brown in color and very soft. As the condition advances the surface becomes fissured with sharp cracks across the grain, and longer V-shaped cracks along the grain. The internal wood shows no visual evidence of deterioration.

(Concluded on next page)

NEW CHEVROLET TRUCKS

have what it takes to boost efficiency and bring down costs!

In the next three paragraphs you'll find a few good reasons why you can get more work out of a Chevrolet truck and save money doing it.

INCREASED POWER IS THE FIRST BIG REASON

With Chevrolet's higher compression ratio you've got more power under the hood. Power that results in greater acceleration and hill-climbing ability. Faster starts and acceleration over the day's work save valuable time and increase over-all efficiency. Check the gas mileage, too. With this higher compression ratio, your Chevrolet truck registers *more miles on the job* for each tankful of gas. That's where you start to save money.

BUILT-IN RUGGEDNESS SAVES EVEN MORE

The strength and stamina of more rigid frames, and the special chassis features that pertain to each model—these combine to add extra ruggedness to your Chevrolet truck. Push it hard on the rough jobs; keep it going over long schedules—you'll still find your upkeep costs lower and your Chevrolet trucks lasting a lot longer.

ONE LAST POINT—and maybe the most important to you—you'll find Chevrolet's line of trucks priced the lowest of all! Talk over your needs with your Chevrolet dealer. He'll be glad to give you the facts about the best model for your job. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

MOST TRUSTWORTHY TRUCKS ON ANY JOB! CHEVROLET

CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

THREE GREAT ENGINES—The new "Jobmaster 261" engine* for extra heavy hauling. The "Thriftmaster 235" or "Loadmaster 235" for light-, medium- and heavy-duty hauling. **NEW TRUCK HYDRA-MATIC TRANSMISSION***—offered on ½-, ¾- and 1-ton models. Heavy-Duty **SYNCHRO-MESH TRANSMISSION**—for fast, smooth shifting. **DIAPHRAGM SPRING CLUTCH**—improved-action engagement. **HYPOID REAR AXLE**—for longer life on all models. **TORQUE-ACTION BRAKES**—on all wheels on light- and medium-duty models. **TWIN-ACTION REAR WHEEL BRAKES**—on heavy-duty models. **DUAL-SHOE PARKING BRAKE**—greater holding ability on heavy-duty models. **NEW RIDE CONTROL SEAT***—eliminates backrubbing. **NEW, LARGER UNIT-DESIGNED PICKUP AND PLATFORM STAKE BODIES**—give increased load space. **COMFORTMASTER CAB**—offers greater comfort, convenience and safety. **PANORAMIC WINDSHIELD**—for increased driver vision. **WIDE-BASE WHEELS**—for increased tire mileage. **BALL-GEAR STEERING**—easier, safer handling. **ADVANCE-DESIGN STYLING**—rugged, handsome appearance.

**Optional at extra cost. Ride Control Seat is available on all cabs of 1½-, and 2-ton models, standard cabs only in other models. "Jobmaster 261" engine available on 2-ton models, truck Hydra-Matic transmission on ½-, ¾- and 1-ton models.*

GENUINE JOE SAYS:
WAGNER HIGH-SPEED TESTED COMMUTATORS WILL LAST FOR YEARS AND YEARS
Send for Catalog MU-40
WAGNER ELECTRIC CORPORATION
6471 PLYMOUTH AVE., ST. LOUIS 14, MO

LARKIN CEILING HUMI-TEMP

Price is only one factor in the selection of any product—especially one that has so important a task as protecting valuable perishables. Performance must come first. Quality cannot be overlooked. Durability is highly important. Larkin has all of these. And Larkin has low prices, too. Compare them and see for yourself how low they are.

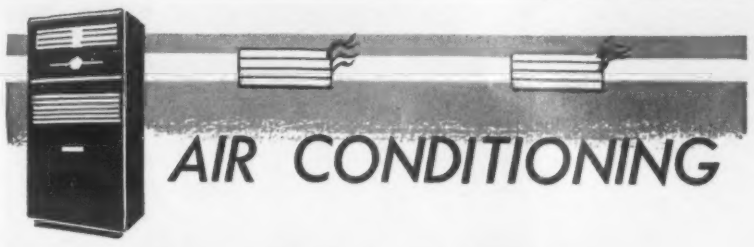
For the latest Larkin price list, see your wholesaler. If you wish, write direct to us. We shall be glad to send you one.

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS

519 MEMORIAL DR., S.E. • ATLANTA, GA.



Cooling Tower Design, Application--

(Concluded from preceding page)

" 'Brown surface deterioration occurs most frequently in the fill and other parts of the tower covered by flowing water. It has been observed to a lesser extent in the drift eliminators, wall, and frame, and in the mist section of those towers in which these parts are kept thoroughly wet and dripping with an excess of moisture. It has not been observed on the outer casing, louvers, or top decking where only occasional splash or spray may fall.

Internal Deterioration

" '*Internal Deterioration:* This form is evidenced by a delamination or crumbling of the internal wood structure. The color of the degraded wood is normally brown. In early stages the summerwood is often selectively degraded, leaving the springwood as integrap laminates. In later stages both springwood and summerwood are degraded to a crumbly residue.

" 'Internal deterioration may occur in any part of the tower, but it has been found only to a limited extent in those parts covered by flowing water. It occurs primarily on the leaving-air side of the water distribution system.'

"Now, before measures can be taken to protect wood against these forms of deterioration, it is necessary first to establish its causes. In this respect the above report arrives at the following conclusions.

"White surface deterioration is essentially of a chemical nature characterized by the selective removal of lignin. It rejects the conclusions of earlier investigators that the process is a pulping action of an alkaline solution of sodium carbonate, by showing that at pH between 6.5 and 9.0 the bicarbonate predominates. The bicarbonate is not known as a pulping agent and cannot be held responsible for the deterioration.

"Field observation substantiates this conclusion and leads to the fact that the controlling factor in white surface deterioration is the combination of chlorine and pH. Chlorine as an algicide is used predominatly in most cooling tower plants.

"The lignin in the wood is readily oxidized by chlorine to chlorolignin in an alkaline medium, and the cholorlignin is soluble in a mild alkaline solution. But the chlorine also reacts with the natural toxic extractives, and the loss of these toxic substances probably has a bearing on the development of brown surface deterioration.

"There cellulose is selectively removed from surface layers, and since no re-agents are present in cooling tower waters are known which can degrade cellulose, brown surface deterioration must be the result of microbiological action.

"A relationship, therefore, seems to exist between the two forms of deterioration. White surface deterioration is the predecessor, and by its removal of the toxic extractives, opens the way for present fungi to function.

"The rate, that is the per cent of wood destroyed per year, has been found to depend on the combination of chlorine residual and pH. Each constant chlorine residual has its own curve showing high rates of destruction at large pH values, the larger, the higher the chlorine residual, and dropping as pH is reduced until a minimum is reached at pH between 7.25 and 7.5. At further reduction of pH, the rate increases again but less rapidly. The optimum combination for minimum rate of destruction is:

Chlorine Residual	1.0 ppm
pH	7.25—7.5

"The internal deterioration shows the same characteristics as the brown surface deterioration and is, therefore, thought to represent the end result of fungal action. The available statistical data also indicates that the rate of destruction from internal deterioration follows the same dependency of the chlorine residual and pH combination, leading to the same optimum combination indicated above.

"Although internal deterioration may occur anywhere in the tower, it has been observed more frequently in the upper mist section. Possibly more favorable moisture conditions within the wood for fungal life are presented there.

Chemical Reaction Tends To Increase with Temperature

"The rate of all chemical reactions increases with temperature and it is not surprising that the rate of white surface deterioration follows the same pattern. At the same time, if brown surface deterioration is the result of fungal action, it is to be expected that the rate of destruction will be large within the limited range of temperatures most favorable to fungal life.

"This is indeed borne out by the investigation which shows the temperature range to be between 103° and 120° F. Unfortunately this is just about the temperature range within which most cooling towers operate.

"All materials are subject to deterioration in time. Preservation methods only attempt to reduce the rate of destruction to an economically justified minimum, determined in such manner that the cost of the preservation must at least balance the value of the saved material.

"The metals in the equipment within the circulating water system represent a far larger value than the wood in the cooling tower. Preservation must be designed with the metal foremost in mind. It has been the practice to protect the metal by chemical treatment of the circulating water. To protect the metals against corrosion the pH was kept on the alkaline side.

"But the metal surfaces must also be protected against algae and slime deposits which reduce heat transfer and lower the performance of the equipment. The usual algicide employed is chlorine. At high pH the chlorine demand is large and the cost of chlorine high. Newest trend in circulating water treatment is, therefore, to reduce the pH of the water to around 7.5 and to use corrosion inhibitors for corrosion protection.

"But what about the upper mist section of the tower which is not flooded with water? Although proper water treatment was shown to equally minimize internal deterioration, this form is more important, not so much because of loss of material, but because it can weaken structural members rapidly, and because it is more difficult to detect in the early stages.

Spraying or Brushing With Preservatives

"Attempts at periodic spraying or brushing of preservative chemicals in the upper section are being made by various tower users. But it requires shutting down and drying out of cells and is quite costly. Other companies are beginning to specify wood treatment of the upper section with creosote, pentachlorphenol, etc.

"Demands on tower design to provide easy replacement of defective parts are being made. For imperfect parts must be removed in order to prevent rapid spread of the infection," Michael said.

"Finally, in order to keep chlorine residuals down, recommendations are being made to chlorinate the make-up water rather than the circulating water, leaving a slight residual prior to adding it to the system in order to reduce the chlorine demand of the system, since all that will be needed is enough to maintain static conditions.

"If heavily contaminated waters are added untreated and then chlorine is used to gain control, large amounts of chlorine are required. A portion of this inevitably comes in contact with the wood and degrades it.

"If make-up waters are contaminated with large amounts of suspended solids, some of which may be organic, it is recommended that consideration be given to purifying this water by filtering and flocculation and settling prior to chlorination. These mechanical means may prove cheaper than chlorination for purifying heavily contaminated waters.

"The biggest part of the capital invested in a cooling tower is in the lumber. Its preservation is economically important. The cost of such preservation in capital investment of equipment and in yearly expenditures for chemicals must find its place along the economic factors that determine the economic selection of a tower.

Exhaust Air Saturated With Water Vapor

"The exhaust air of a cooling tower is saturated with water vapor and always at a temperature higher than that of the surroundings. When the exhaust air mixes with the surroundings, its temperature drops. But the surrounding air is rarely saturated and is, therefore, able to absorb additional moisture so that condensation does not occur.

"But there are days in the year where conditions favorable for condensation exist. Early spring days often show an atmosphere of fairly cool temperature fairly saturated with vapor. During such days the excess moisture in the exhaust air, after cooling will condense and form the typical dense fog that sometimes surrounds a tower.

"From a performance standpoint there is no harm in fogging, but the nuisance fogging presents can be very considerable. If public roads pass nearby, the heavy fog will envelop a section of it making driving through it a real hazard. The hazard is increased if the film of water formed by the water droplets on the road freezes and makes the road slippery.

"Prevention of fogging by cooling tower design is extremely uneconomical. There is a certain minimum temperature differential between exhaust and surrounding air, and designing to be below it would stop fogging. But it leads to tremendous air quantities which would increase fan power and tower cost considerably, and considering that fogging conditions occur a few days of the year could not be economically justified.

"Location of cooling towers away from public roads is a better solution. If this is not possible and depending on the distances involved, considerations for installing higher fan stacks may lead to a solution, with the idea that winds will blow the fog beyond the road.

"Under any circumstances fogging can present a problem that will influence the final economic cooling tower selection."

TERRIFIC VALUES ON NAT'LLY KNOWN COMPRESSORS

NAME BRAND twin-cylinder bodies with flywheel and service valve. ¾ hp..... $30.00

Same as above (1 hp)..... $33.00

NAME BRAND ¾ hp 115 Volt low base condensing units $118.00

NAME BRAND 1½ hp 220 Volt complete motor compressor assembly with service valve $69.00

NAME BRAND ⅓ hp fan-cooled hermetic units..... $34.00

(10% discount in lots of 6 or more)
All equipment new and fully guaranteed.

MANN Refrigeration Supply Co.
440 Lafayette St., New York, N. Y.
GRamercy 3-8000

Did you Know!?

that 65%

OF ALL FREEZERS SOLD* ARE EQUIPPED WITH

Tecumseh HERMETICS

It's true—65% of the freezers sold in 1953 (*as reported by REMA) incorporated a Tecumseh hermetic compressor! This overwhelming acceptance by the freezer industry proves the superiority of the Tecumseh hermetic.

Lower price, better performance, greater capacity and lasting dependability are but a few of the reasons why the Tecumseh hermetic is preferred for low temperature applications. Our engineers will be glad to show you how the Tecumseh hermetic can save you time and money on your application.

Dealers too, will find that these facts present powerful sales arguments to convince customers that freezers equipped with a Tecumseh unit will give long, satisfactory service and reduce operating costs to a minimum.

TECUMSEH

TECUMSEH PRODUCTS Company
TECUMSEH, MICH.
EXPORT DEPT.: 2111 WOODWARD AVE., DETROIT, MICH.

What Was New

At the Dairy Show

ICE CREAM MERCHANDISER INTO WHICH FRIGIDAIRE says it has put all the experience of its many years in the ice cream cabinet field is the "Hy-Viz Zero Self-Server," which W. F. Switzer (left), Frigidaire commercial sales manager, and P. W. Budworth, ice cream cabinet sales manager, look over here. Features include the "flowing cold" system of refrigeration, automatic defrosting, full front of clear-vision glass, and open display area.

KEY NO. D-1120

JUSTIFIABLE FAMILY PRIDE IS TAKEN in this Weber Showcase & Mfg. Co. "Blizzard 16" display case for frozen foods and ice creams, by Mrs. Karl F. Weber (left) and Mr. and Mrs. Karl Weber. Mr. Weber is head of the Los Angeles manufacturing firm bearing his name. The Blizzard 16 has the "Selectaire" cover, automatic defrosting, and canopy display area.

KEY NO. D-1121

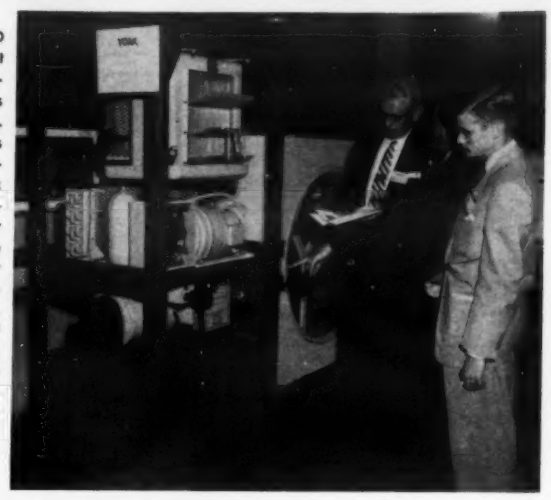
GLASS-FRONT UPRIGHT STORE FREEZER model for handy display of frozen products is this Fogel Refrigerator Co. model RF-18-G. As Ira B. Altman, Fogel advertising and sales promotion manager, indicates, it will hold 700 pint packages of ice cream in its 18 cu. ft. of freezer space. Thermopane glass door measures 45 by 24 in. A 22-cu. ft. model in the same design will also be introduced.

——KEY NO. D-1122——

For further details on any of the items pictured on these two pages use the "Information Center" form below, referring to the key number accompanying the picture. Additional pictures from the 19th Dairy Industries Exposition will be published in the next issue of the NEWS.

A HERMETICALLY SEALED truck refrigeration unit that will go into production in November was displayed by York Corp. The unit will be made as a single package for installation in the truck body or a divided package with the compressor and condenser under the hood and the evaporator in the truck body. Looking on are (l. to r.) W. R. Perry, U. C. Milk Co. of Madisonville, Ky.; L. P. Gladfelter, York factory representative; and W. F. Markley, York development engineer.

KEY NO. D-1123



COMBINATION FREEZER-REFRIGERATOR which will hold both ice cream and other dairy products will find use in the smaller store, believes John Mack, recently named manager of commercial sales for the Jordon Refrigerator Co. The model 20-20 has all refrigerated shelves in the freezer compartment, and overhead blower coil in the other compartment. Two separate condensing units and controls are used.

KEY NO. D-1124

WATERPROOF BOOT FOR cold storage or walk-in cooler doors, designed to protect them against damage from standing water on the floor, or from washing down, is development of Jamison Cold Storage Door Co. Here F. Odendhall and P. J. Duffy of Jamison explain boot construction, in which all seams are soldered and the metal is turned in around the bottom of the door.

KEY NO. D-1125

Let's get the facts straight about driers

IT SEEMS that the time has come to get a few facts straight about refrigeration driers . . . about what they will and won't do . . . and the validity of some of the claims made for different types. What is happening in the drier field has happened, and will continue to happen, to every group of products manufactured by American Industry . . . and the malady is best described as "exaggerated claimitis." Periodically it creeps into everything from motor oil to television and we're sure you've been well bombarded by the "loud claimers" at one time or another. You know the kind of stuff we mean . . . "use super pills and you won't have to change oil in your car for 50,000 miles" . . . "cures everything with just one bottle" . . . "does a bigger, better, faster, cheaper job than any other tool on the market." When basic facts are distorted to make a plausible story, "exaggerated claimitis" has set in.

Now let's talk about driers. A drier, dehydrator or call it what name you will, is hardly as mysterious in operation as a nuclear reactor. It's a simple, highly important device that is essential to the proper operation of any refrigeration system. Its job is to take out the undesirable elements in refrigerants. The Mueller Brass Co. has been making driers for over 35 years and naturally we feel that we know a little bit about them. With over 3,000,000 of them in service, we feel that our driers must be fairly good from all viewpoints.

When we say that a drier is rated at 5 h.p. we mean just that . . . not 4¾. When we say our driers are skillfully engineered and carefully produced we mean it. We want you, as our customers, to believe what we have to say . . . which now brings us around to the word "acid" which seems to be a brand new discovery to everybody in the business.

Moisture is the biggest enemy of successful refrigeration performance . . . with sludge next in line. Acid, which can form only under certain set circumstances, is a comparatively minor problem. But, since there seems to be a real scare campaign on the evils of acid, let's delve a little further into the subject. We've been well aware of the fact (for the past 35 years, anyway) that hydrochloric acid can sometimes form through the hydrolysis of Freon and, naturally, it should be removed from the refrigerant. Removal of such acid is merely a matter of course, not an all-out battle such as some manufacturers seem to think is necessary. For acid removal, the PA 400 Super Silica Gel used in Mueller Brass Co. driers is 100% efficient . . . which makes it a little hard to beat. Couple this with the fact that the PA 400 provides 98% more drying capacity and it would seem that both the moisture and acids have been well handled. When it comes to the second "ugly" word . . . "sludge," we feel that the cone-screen filter-strainer does a pretty fair job because its filter area has not only been increased by 30% (and it was big before!) but also gives 7 times the cleaning capacity of the filter or strainer device used in ordinary driers.

Now let's look into drier designs for a moment. Basically a drier is a cylinder containing a desiccant, and has varying methods of filtering and straining the refrigerant which flows in one end and out the other. Straight-through flow naturally presents less restriction in the line . . . you can put all sorts of angles and bends in a drier but you aren't helping the cause one bit. The drier is to help not hinder . . . and a straight line is the shortest and least restricted distance from the inlet end to the outlet.

We have touched on many things in this discussion of driers, but, as we said before, there's nothing so mysterious about the operation of a drier that warrants raising a lot of fuss and feathers about that bogey-man, "acid." It is purely a severe case of "exaggerated claimitis" because acid never was allowed to become important when Mueller Brass Co. driers were on the job.

We hope we've gotten a few facts straightened out, and thanks for your reading attention . . .

The Mueller Brass Co.

138

MUELLER BRASS CO. PORT HURON 9, MICHIGAN

Information Center

For *more information* on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

What's New or Current Literature Available

Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....
Key No. ..... Key No. .....

Products Advertised

(list name, page, and issue date)

.....
.....
.....
.....
.....

(PLEASE PRINT PLAINLY)

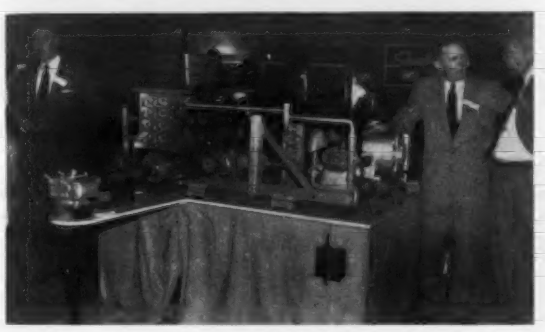
Name ..... Title .....
Company .....
Street .....
City ..... Zone..... State.....
Type of Business .....

MAIL THIS FORM TO

AIR CONDITIONING & REFRIGERATION NEWS
Readers Service Dept.
450 W. FORT ST. DETROIT 26, MICHIGAN

CIRCULATING AIR MAGIC DEFROST is the outstanding feature of the new Savage Arms Corp. ice cream merchandising cabinet shown here with (l. to r.) Wes Vogel of Savage, Alex B. Griest of Jones & Griest, Washington, Pa., and Kent Clarke, Savage representative in Philadelphia.

——KEY NO. D-1126——



COMPLETE TRUCK REFRIGERATION SYSTEM is obtained in this "Kold-Trux" mobilmatic unit which Pat Stowell (facing camera at rear left), sales manager of the refrigeration division of Tranter Mfg. Co., is discussing with Dairy Show visitors. Deriving power from the propellor shaft, power take-off, or live axle, they build refrigeration as the vehicle is driven. The special designed "hydro-pack" blower coils (at far left) have blowers operated hydraulically off the compressor system, providing greater capacity.

——KEY NO. D-1127——

SINGLE COMPRESSOR THAT PROVIDES electric plug-in operation for night loading and engine drive for enroute refrigeration is the big feature of the "Retailer" refrigeration system for trucks introduced by Coldmobile Div., Union Asbestos & Rubber Co. Compressor was supplied by Copeland Refrigeration Corp. "Retailer" system consists of three elements, the power unit, refrigeration unit package, and control box. Power unit is a semi-hermetic motor-compressor assembly with auxiliary external shaft extension. This mounts on and is driven by the truck engine by means of a V-belt. A magnetic clutch pulley (mounted on the compressor shaft) is utilized to disconnect the engine drive when the unit is on night plug-in operation. Refrigeration unit package of condenser coil and fan, evaporator fan, receiver tank, expansion valve, sight glass, dehydrator, and thermostat, is housed in panel package 9 in. high.

——KEY NO. D-1128——

FOR FAST DISPENSING SERVICE the Bastian-Blessing Co. developed this model 1386 fountain, being demonstrated here by Terry Gurry. This creamer unit features the Cold-point beverage dispensing system (top center) 2 flavor, 1 water, and 1 soda water draft arms.

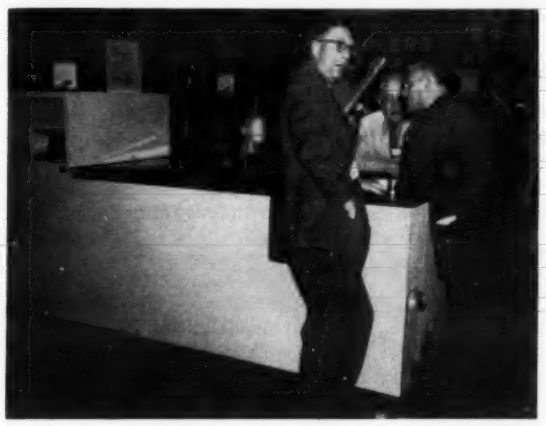
——KEY NO. D-1129——

FROZEN FOOD DISPLAY CASE SUITABLE for merchandising ice cream is this Bally 13-cu. ft. model. Leon Prince, pictured here with the display, lists the features as automatic defrost with self-evaporative drain system, slideaway night cover, removable canopy, all porcelain interior and exterior finish.

KEY NO. D-11210

RECORD DEFROSTING TIME IS CLAIMED for this Brewer-Titchener frozen food and ice cream display case. With use of a hot gas forced-air defrost system, the defrost time is said to be always under 3½ minutes, and sometimes less than 2 minutes. Bud Wilks (left) and Bernie Sherman (right) of Refrigerated Equipment Sales look over the model, which is made in 15-cu. ft. size only.

KEY NO. D-11211



A COMPLETELY SELF-CONTAINED "single package" bulk milk cooler of 250-gal. capacity was exhibited by Wilson Refrigeration, Inc. At rear is Don Graves, Wilson representative in New York. In the center is Lyman Baker of Buffalo Milk Products, while A. Stonesbury, Wilson service manager, is in the foreground.

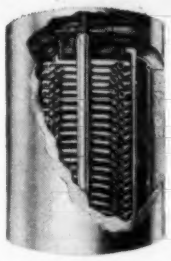
KEY NO. D-11212

COMPACT EUTECTIC BLOWER SYSTEM that is claimed to provide uniform temperature in any high temperature truck body is the Dole Refrigerating Co. "Truck-Cel" unit. Two types are provided. The "PHO" models are designed to be powered by a truck-mounted compressor during over-the-road operation, with a plug-in for standby night operation. CHO models are designed to furnish complete holdover during the day and are powered by either a self-contained plug-in unit or a make-and-break ammonia plant system.

——KEY NO. D-11213——

Filtrine Since 1901

Tank Type WATER COOLERS



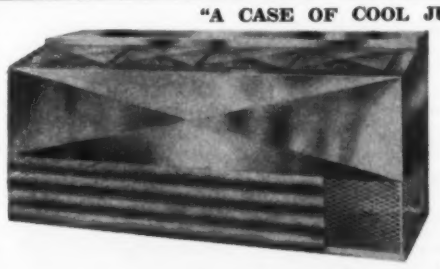
- Extra-large storage
- Safety from freeze-up
- Fast hourly recovery
- 20-year life construction

Capacities: 5 to 500 g.p.h.
Storage: 2 to 240 gals.

Water coolers for all uses factory-packaged with your condensing unit. Write for literature.

FILTRINE MFG. COMPANY
53 LEXINGTON AVE. • B'KLYN 38, N. Y.

"A CASE OF COOL JUDGMENT"



FLO-COLD DRINKMASTER
STAINLESS STEEL CUBER—COOLER.
SOLD THRU DEALERS ONLY.
WRITE
United Friguator Engrs.
MENOMINEE, MICH.
AVAILABLE IN SIZES 4 TO 10 FT.

...REVERE DRYSEAL COPPER REFRIGERATION TUBE

It's a dead cinch to bend dead-soft DRYSEAL. Your hands are all you need, even for the most intricate bends. And its ductility and special temper make it extremely easy to flare for compression fittings without danger of splitting.

And to make sure you get a tube that is free of even the slightest trace of dirt or moisture we double crimp DRYSEAL on both ends, at the factory. This is the final step in manufacturing, that immediately follows a special cleaning and dehydrating operation, which keeps dirt and moisture from entering the tube. That's why the inside of DRYSEAL shines like a new penny. This double crimping does not interfere with installation for it is made in such a way that the diameter of the tube does not change, permitting DRYSEAL to be passed through any opening large enough for the tube itself. Economical tube sizes range from ⅛" to ¾" O.D.

In addition the DRYSEAL carton, has been attractively designed for easy identification in stock. It contains one 50-foot coil of DRYSEAL . . . is easier to handle, light weight, economical and is sturdily made to assure protection of the tube.

REVERE
COPPER AND BRASS INCORPORATED
Founded by Paul Revere in 1801
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y. Sales Offices in Principal Cities, Distributors Everywhere.

SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

Refrigeration Problems

and their solution

by Paul Reed

For Service and Installation Engineers

Paul Reed

This Air In Which We Live

According to a popular program on the air, people are funny. People do humorous, laughable things; and they also do peculiar, odd things, that are not always funny but which are often difficult to explain.

Inanimate matters—gases, liquids, and solids are "funny" too, for many of their properties and the way they act under different conditions are odd, unexpected, and often difficult to understand.

Two qualities that distinguish men from other animals are that some things seem humorous and laughable to them, and other things, although not humorous, are odd or peculiar and excite man's curiosity so much that he tries to understand what made them act that way.

For centuries, some men, more curious than others, have tried to pry into nature's secrets. Now we call them men of science, but it has not been too many years ago that they were called wizards and necromancers, and were persecuted as being in league with the devil.

Bit by bit, facts have been accumulated, sorted out, and arranged in orderly fashion. From all these, numerous conclusions have been drawn, tested, and rechecked time and again to be sure they are true. We call these conclusions Nature's Laws.

Nature's Laws are quite unlike man-made, social laws. If we break a law of nature, we must pay—and there is no appeal. If we touch a high voltage circuit, if we put our fingers in muriatic acid, or if we get in the way of a heavy or rapidly moving object, we are arrested, judged, sentenced, and executed almost instantly. Nature is always just, but sometimes cruel.

It has only been very recently, as history is measured, that man has been able to formulate and understand even some of the simplest of Nature's Laws, and his ignorance is still vast. He knows *how* some things happen, and he can measure them, but he still knows very little about *why* they happen as they do.

AIR—A MIXTURE

Take the air around us. Without it we would die at once, and yet, until it moves as wind, we are not aware of its presence. Nor is it very simple. It is composed mostly of a gas that we call nitrogen, that is highly important to plants, but directly, not too important to man except to dilute another gas in the air, the life-giving oxygen. There are several other gases in the mixture called air, but most of these gases do not change much, either in their proportion in the air, nor in their individual forms or properties, so we do not have occasion to know that they are there.

But there is one of the gases of which ordinary air is composed that sometimes changes in form and individual characteristics so frequently, and these changes are often so pronounced, that we are aware of the presence of this gas.

This gas is also different in that it is composed of two gases, oxygen and hydrogen, bound together in a chemical form. We call it water vapor or more often, moisture. Ordinarily, we cannot see it any more than we can the other gases in the air.

Usually, the amount of water vapor in the air is, by weight, a very small part of our air. But sometimes, due to temperature changes, the water vapor part of the air can be seen and felt as fog, mist, rain, frost, snow, or sleet. When the fog is a few hundred or a few thousand feet above us, we call it a cloud.

SOLIDS, VAPORS, AND LIVING ORGANISMS IN AIR

Air has a lot of other things in it. There are tiny solid particles of carbon or minerals, that we call smoke, mixed into the air. Other tiny solid particles, usually of silicon, that we call dust, are also carried around by the air movements. Plants throw off solid particles of pollen, air-borne seeds, and tiny bits of leaves.

Odors are vapors thrown off from animals, plants, decaying vegetation, refuse of all kinds, chemicals from industrial plants, and from impurities or incomplete combustion of coal, oil, and gas burned in furnaces and from gasoline burned in automobiles. The air we live in and breathe has hundreds of these odors in it. In addition, there are millions of little plants and animals in the air. Some of them are harmless, helpful to man in fact; others are extremely dangerous, and are responsible for some of man's sicknesses and discomforts. So air, far from being a simple gas, is really a mixture of several gases, vapors, and small particles of solids. Its composition varies from place to place and from day to day, and sometimes from hour to hour.

Fish in the sea, lakes, rivers, and ponds are in a similar element, for man lives at the bottom of a sea of air. The water in which fish live also has gases absorbed in it (the fish must have oxygen, which they get from the water passing through their gills). In the water there are particles of solid matter, and a tremendous variety of plant and animal life, all of which contribute their changes to the composition of the water in which the fish lives.

MAN'S CONTROL SYSTEM

But to return to man in air. He is equipped with a number of controls that react to the air around him. His thermostatic control system is very sensitive. It adjusts his body functions to changes in temperature, but it also tells him about it—that the air around him is too cold or too hot.

His other senses have to be satisfied also, especially his nose, if he is to be comfortable. He is comfortable and tranquil as long as his senses are all satisfied and not telling him that he is hot, cold, that the air smells bad, etc. He is best satisfied and most comfortable when he is least aware of the air around him—its temperature and movement, the amount of water vapor in it, its odors, or other composition that may arouse the antagonism of one of his senses.

To make him comfortable we must cool or heat the air to the exact temperature at which he will not notice what the temperature is, one way or the other. We must move the air around him, but so gently that he is scarcely if at all aware of any air movement. The control of these three, temperature, moisture content (humidity), and air movement, must be closely interrelated. We must regulate the amount of water vapor in the air, particularly as it affects his temperature. This ties in closely with the temperature at which we control the air for him, and the movement of the air.

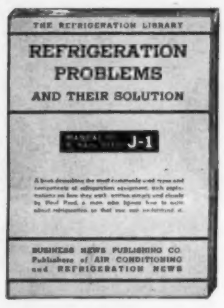
We must clean the air for him; remove odors that offend him, pollen or other solids that may cause him to sneeze, or his head to stop up. Dirt or lint that he may notice on his clothing or on his furniture or desk must be removed. He must be protected from bacteria that may threaten his well being.

So a well designed air conditioning system must include more treatment to the air than merely cooling it, and this treatment must be controlled automatically and accurately. All this must be done silently. He must be shielded from harsh and distracting sounds.

When a man is healthy, he is not actively aware that he has a heart, lungs, or other vital organs. They function without intruding on his consciousness.

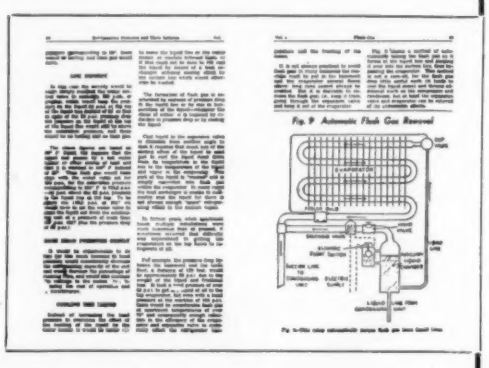
To make him comfortable, we must treat this highly complex air in which he lives so that he is unaware of its presence.

by PAUL REED



REFRIGERATION PROBLEMS

AND THEIR SOLUTION



Make it work! When you're stopped by a tough problem use these practical reference books with a load of factual information about every refrigeration problem you'll meet as a serviceman or salesman. For years Paul Reed has been supplying the answers in his weekly column in AIR CONDITIONING & REFRIGERATION NEWS.

***Now* this fund of knowledge can be yours in this 5-volume set. Order all now—or one at a time.**

VOLUME 1

Measuring Temperature; What Heat Is; Temperature-Pressure Relationships; Components In the Compression Cycle; Expansion Valves and Their Properties; Capillary Tubes; Float Valves; Heat Exchangers; Oil-Refrigerant Mixtures; Control Settings; Air Circulation; Multiple Systems; etc.

VOLUME 2

Condensers; Compressor Shaft Seals; Defrosting Evaporators; Compressor Oil; Charging Refrigerant; Humidity and Air Circulation; Carbon Dioxide; Use of Gauges; Trouble-Shooting; Preventive Maintenance; Control of Moisture; Leaks; Care of V-Belts; Lapping Seals, Plates; Service Chart.

VOLUME 3

Lost Time and Short Cuts; Refrigerants and Tables; Mollier Chart; Two and Three Stage Compression; Leaks and Moisture; Electric Currents; Single and Three Phase Systems; Motor Troubles; etc.

VOLUME 4

Cleaning Parts Before Repair; Compressor Noise; Compressors In Parallel; Frozen Compressors; Service Problems; Overloaded Motors; Making Money In the Service Business; Absorption; Evaporative Cooling; The Heat Pump; Comparative Cost of Fuels.

VOLUME 5

The Oil Cycle; Oil Slugging; Copper Plating; Properties of Water Important In Cooling; Railway Car Refrigeration; Safety In the Field of Service Work; Mystery of the Hidden Moisture; Mystery of the Missing B.T.U.'s.

Each book is fully illustrated—5 by 8 inches with a hard paper cover and printed on fine paper stock.

MAIL NOW

BUSINESS NEWS PUBLISHING CO.
450 W. Fort St., Detroit 26, Mich.

Please send Paul Reed's books as follows:

..... copies J-1, $1.50 each. ..... copies J-2, $1.50 each.
..... copies J-3, $1.50 each. ..... copies J-4, $1.50 each.
..... copies J-5, $1.50 each.

Check for $..... enclosed* ☐ Bill me.

Name .....
Address .....
City ..... Zone..... State.....
*Books sent post-paid if remittance accompanies order. 11-8-54

unquestionably VIKING!

A glance tells even the casual observer that this example of early shipbuilding is ***unquestionably Viking!***

The Vikings of old took fierce pride in their ships of war and trading vessels. They achieved a degree of skill in this basic industry unequalled by their contemporaries.

Today, men in the commercial refrigeration and air conditioning industry know that the finest tubing available for the industry is ***unquestionably VIKING.*** VIKING craftsmen work constantly to produce the very finest copper tubing . . . made to the most rigid standards . . . a tubing worthy of the name VIKING.

Viking copper tube is annealed with precision uniformity insuring speedy, efficient, trouble-free fabrication and strength.

Triple-sealed Viking tube remains extremely dry and absolutely free of dirt. The seal is made to pass through any opening large enough for the tube itself.

Viking refrigeration tubing is soft and pliable—can be formed, flared and expanded quickly without danger of fracturing and splitting.

Write for prices and details.

PRECISION DRAWN SEAMLESS COPPER AND ALUMINUM TUBING

VIKING
copper tube co.
Cleveland 10, Ohio

CRMA To Meet In Atlanta Nov. 18-19--

(Concluded from Page 1, Col. 3)

industry's 1955 business prospects.

The meeting will be followed by a cocktail party and entertainment at the Atlanta Athletic club. Commodore Virgil P. Warren, founder and board chairman of the Warren Co., and John D. Harris, president, will be hosts.

Following this, CRMA will be host to a testimonial dinner to honor the Warren administrative and production staffs.

The tour of the Warren plant will get under way at 8 a.m. the next morning. Divided into groups of eight, each group guided by a member of the company's technical staff, the delegates will inspect the operations of every department, from incoming raw materials to the finished equipment loading platform.

After luncheon at the Henry Grady hotel, a two-section program will be presented. The first portion will feature a question-and-answer session where Allen P. Livar, vice president of manufacturing at Warren, and his associates will answer questions on particular operations or processes.

The remainder of the afternoon session will be devoted to discussion of production problems, including the technical difficulties arising from colored exterior finishes on refrigerated fixtures, cost control methods, accident prevention, incentive plans, profit-sharing, the guaranteed annual wage, fringe benefits, and the problem of coordinating production to sales. W. H. Grant, vice president of Hussmann Refrigerator Co., will be chairman of this portion of the meeting.

Livar is chairman of the CRMA committee on arrangements for the plant tour program. He is being assisted by Stuart Bergman, production manager of Friedrich Refrigerators, Inc.; Joseph W. Krall, president of McCray Refrigerator Co.; and Grant.

Tyler Appointments--

(Concluded from Page 1, Col. 2)

personnel manager at Niles.

In his new role, R. L. Tyler, Jr. will have duties and responsibilities in connection with the company's sales efforts in all areas of operation. Over the years, Tyler has been a member of the company's sales staff in the field, assistant manager of the Chicago office, and assistant sales manager of the home freezer division.

R. L. Tyler, Jr.

VanderWeg has been with Tyler for 25 years. As director of operations, he assumes responsibility for all corporate-wide production activities covering all four Tyler plants, in Niles, Cobleskill, Waxahachie, and Smyrna.

Recently general manager of Tyler's Harder plant in Cobleskill, VanderWeg will shortly move his offices to Niles.

"Bob" Gray, for ten years personnel director of Tyler's Niles plant, will have responsibilities as director of industrial relations.

In addition to acting as supervisor to the personnel managers of the four individual plants, Gray will handle all labor relations within the corporation. He will continue to headquarter in Niles.

Mittan, a 10-year employe of Tyler, was most recently in charge of Niles production facilities. As VanderWeg's new assistant director of operations, his responsibilities will include company-wide tooling, property management and maintenance.

Starke has served 13 years with Tyler, the last nine as office manager of the Niles plant.

A. G. MASIELLO, recently named assistant sales manager at Typhoon, is shown with a group of prizes to be awarded to winners of the Typhoon 1954 Roundup Fall Sales Contest.

Typhoon Two-Color Effect--

(Concluded from Page 1, Col. 4)

equipment no longer need choose between putting up with 'eyesore' color combinations or refinishing his equipment at additional cost."

Another feature of the 1955 Typhoon line is the optional open or hermetic type compressor, enabling the purchaser to choose between the particular advantages of each according to his needs.

Don V. Petrone, president, and Mark Mooney, vice president in charge of sales, dramatized for the dealers Typhoon's 1955 sales program and price setup. A. G. Massiello, assistant sales manager, launched the company's fall "Roundup" sales contest to stimulate off-season selling.

At the conclusion of the meeting, Mooney predicted a strong upswing in sales and profits for Typhoon dealers in the near future.

"Reports in the financial papers," he stated, "of the recently increased outlay in dollars for construction are already being reflected in sales of air conditioning.

"Air conditioning has become so vital a part of new construction that, almost without exception, government and private financing is refused for buildings which do not include it, since any such building would soon become obsolete."

The dealers were informed that Typhoon has recently moved into its new plant at 505 Carroll St. in Brooklyn. The new plant provides 100,000 sq. ft. of factory floor space, more than doubling the company's previous facilities. It also allowed the consolidation of several manufacturing operations into one factory building.

F. L. Jacobs--

(Concluded from Page 1, Col. 4)

"Emphasis in operation of the two companies will be on standardization and interchangeability of equipment, plus a more efficient service policy," Riggs continued.

Mills Industries was founded in 1891 and lays claim to being the oldest vending machine manufacturer in the country. In its 63-year history, the company also has remained one of the largest in its field, it was stated.

The Mills plant has been sold to Teletype Corp. for $2,000,000. However, A. E. Tregenza, president of Mills, explained that the sales agreement provides for the use of present facilities until April 1, 1955. Tregenza, who has headed Mills for the past six years, will continue at Mills as a consultant to the president.

Principal products of the company are commercial ice cream freezers, frozen custard and milk shake machines, and vending machines of all types. In the past year, the company has augmented its commercial line with a new coin-operated coffee vending machine, a three-flavor beverage bottle vendor, a citrus fruit juice vendor, and an ice cream package vendor.

SelMix was incorporated in 1947 and is an important factor in the field of patented equipment for the manual vending of carbonated beverages with bulk syrup, the announcement said. SelMix manufacturing operations will be moved to one of Jacobs' plants in Michigan or Illinois.

Purchase of the two companies by Jacobs, which reported a sales volume of more than $28,000,000 in its 1953 fiscal year, means that the Detroit manufacturer becomes a leading factor in the vending machine industry, according to the company. Jacobs already makes soft drink vending equipment for Pepsi-Cola and is currently completing a contract for 3,000 of these machines in its plant at Traverse City, Mich.

Frigidaire--

(Concluded from Page 1, Col. 3)

Anderson has been associated with Frigidaire since 1947, starting in the Sales Promotion Dept. as supervisor of visual training. He was appointed an appliance zone sales manager and later named appliance sales manager of the Los Angeles branch.

In his new position, he will assume responsibilities covering the sales activities of all Frigidaire products on a national basis, as assistant to H. F. Lehman, general sales manager.

Switzer joined the company in 1932 in the Sales Promotion and Training Dept. He was appointed market research manager in 1933 and promoted to commercial and air conditioning sales manager in 1947. He will now organize and handle all merchandising activities for the Appliance Sales Dept.

Smith was employed by the company in 1928 and since then has held assignments in sales organization and in the factory.

Demarse has been with Frigidaire since 1931 and has served as administrative assistant since 1941.

Name Changes--

(Concluded from Page 1, Col. 5)

sive use by the secretary of state of New York. Some legal authorities believe this would block the proposed name change by the ASRE.

However, the reservation of the term "Air Conditioning" for the ASHVE expires Nov. 9, and the original plan called for a counting of the votes by ASHVE on Nov. 22. Furthermore, it is said that the membership was originally polled on the premise that it would need only a majority of the votes actually polled, but later found that the affirmative vote must be a majority of the membership in order to effect the change. With all these complications, there is some doubt that the change may be made at this time.

Business Upturn--

(Concluded from Page 1, Col. 3)

creased 100% over the same period in 1953, according to R. C. Ingersoll, Borg-Warner president. He also said that unfilled non-defense orders at Borg-Warner have reversed a downtrend prevailing since the end of 1952, and at the end of last month were 25% ahead of those recorded on July 31.

Hotpoint Co. reports its October orders were 20% higher, in dollar volume, than a year ago, and were 25% higher in terms of units. The October jump came on top of the best September orders recorded for a number of years.

A recent survey by the *Wall Street Journal* picked up the following comments from some appliance retailers:

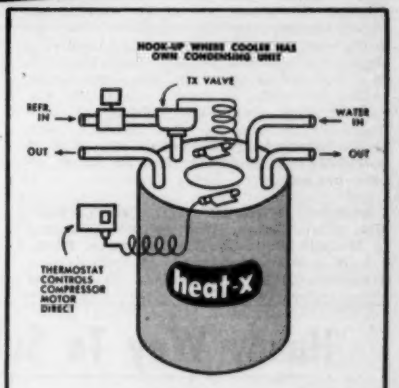
"Things have been pretty lousy but they've been picking up lately," declared Lloyd Hill of Hill Appliance Co., Dallas.

"Total volume so far this year is not up to last year, but I think we will make it up," asserted Mort Farr of Upper Darby, Pa.

A. W. Brusik, of General Radio Service Co., Pittsburgh, the paper said, declared that his appliance business was now running even with last year and should end up 5% or 10% ahead of 1953.

OFFICIAL
U.S. NAVY PHOTOGRAPH

COOL DRINKING WATER UNDER THE SEA



There's plenty of it for men aboard the U.S. Navy's new and re-conditioned submarines.

Typical is the "Diodon" shown above. Aboard this sub, a Heat-X cast aluminum water cooler chills ample quantities of drinking water to supply officers and crewmen. The unit, connected into the ship's refrigeration circuit, has a cooling capacity of 15 gallons per hour. The cooler is installed in an insulated housing and is equipped with suitable Navy-type controls.

Whatever the special problems of your next liquid chilling installation, check with Heat-X-Changer Co. . . . heat transfer products by heat transfer engineers.

WRITE FOR FREE ILLUSTRATED BULLETIN ON THIS OR OTHER HEAT-X PRODUCTS.

THE HEAT-X-CHANGER CO., Inc.
BREWSTER · NEW YORK

OVER 50,000,000 RANCO CONTROLS IN USE!

RANCO controls give dependable, trouble-free service. That's why more than 50,000,000 are now in use throughout the world. RANCO controls are designed and precision-built by refrigeration specialists to provide accurate control for every job. They eliminate call-backs and increase your profits. And remember this . . . RANCO controls are available for almost 5,000 replacement installations.

010-1402
Low Pressure
Cut-In Commercial
Control

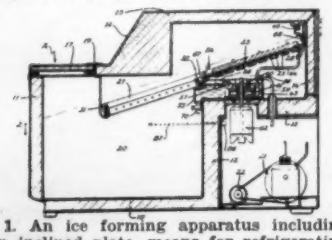
Like all Ranco commercial controls, compact and sturdily constructed, and adaptable to installation requirements.

RANCO CONTROLS
Ranco Inc. COLUMBUS 1, OHIO
WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

PATENTS

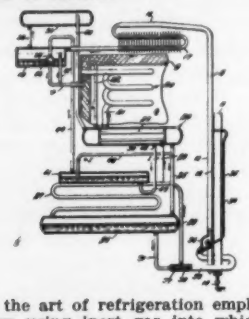
Week of June 29

2,682,155. ICE CUBE MAKING APPARATUS. Russell W. Ayres and Donald F. Swanson, St. Paul, Minn., assignors to Seeger Refrigerator Co., St. Paul, Minn. Application March 18, 1950, Serial No. 150,462. 14 Claims. (Cl. 62—3.)



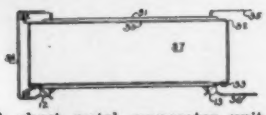
1. An ice forming apparatus including an inclined plate, means for refrigerating said plate, a liquid confining frame encircling said plate formed of metal which has a heat conductivity substantially less than that of the plate, and means for circulating water over said plate.

2,682,156. DISTRIBUTION OF REFRIGERANT IN ABSORPTION REFRIGERATION SYSTEM. Hugo Malcolm Ullstrand, Stockholm, Sweden, assignor to Aktiebolaget Elektrolux, Stockholm, Sweden, a corporation of Sweden.



1. In the art of refrigeration employing a system using inert gas into which refrigerant normally evaporates in the presence of such gas at a place of evaporation to produce useful refrigeration, the improvement which comprises normally flowing liquid refrigerant from a place of condensation to said place of evaporation for gravity flow therethrough, modifying such normal flow of refrigerant responsive to a condition affected by flow of unevaporated refrigerant from said place of evaporation to a place in the system which is removed from the immediate environment in which said place of evaporation exercises influence, and terminating such modified operation responsive to cessation of flow of unevaporated refrigerant from said place of evaporation.

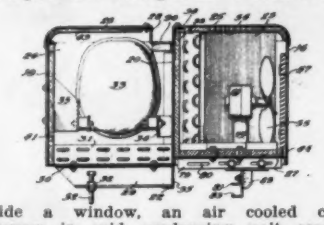
2,682,158. REFRIGERANT EVAPORATOR. Herchel P. Powell, Greenville, Mich., assignor to Gibson Refrigerator Co., Greenville, Mich., a corporation of Michigan. Original application Sept. 12, 1945, Serial No. 615,862. Divided and this application June 28, 1950, Serial No. 170,887. 12 Claims. (Cl. 62—126.)



1. A sheet metal evaporator unit comprising a pair of sheets of metal secured together and formed to provide therebetween an inlet header at one end and an outlet header at the other end of the unit and a continuous refrigerant passageway comprising a series of convoluted corrugations, the corrugations closest to said headers being spaced a substantial distance therefrom so as to provide an uncorrugated zone therebetween, the opposite ends being bent in said non-corrugated zones substantially more than 90° to place the headers in close proximity to the corrugations, means connecting one end of said corrugated refrigerant passageway to one of the headers, and means connecting the other end of said corrugated passageway to the other of said headers.

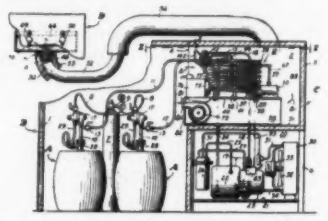
2,682,159. WINDOW AIR CONDITIONER. Allen Trask, Chicago, Ill., assignor to Welbilt Stove Co., Inc., Maspeth, N. Y.

1. In a window mounted air conditioner, a cabinet, a partition within the cabinet dividing it into an evaporator unit compartment and a condensing unit compartment, an evaporator assembly in said evaporator unit compartment and a condensing unit assembly in said condensing unit compartment, said condensing unit compartment arranged for extension out-



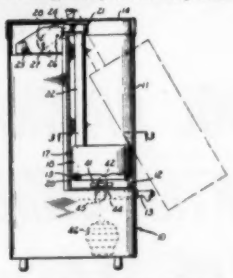
side a window, an air cooled condenser in said condensing unit assembly, said condenser being positioned horizontally within an opening in the bottom portion of said condensing unit compartment and extending substantially the full width of said condensing unit compartment from said partition to the outside wall of said cabinet, means for drawing air upwardly through said condenser, and spacing means underneath said cabinet for supporting said cabinet and condenser in such spaced relation above the sill of a window as to permit substantially uniform air flow through said condenser throughout the entire area thereof.

2,682,160. METHOD OF AND APPARATUS FOR STORING, COOLING, AND DISPENSING BEVERAGES. Wallace B. Kromer, Cleveland Heights, Ohio.



1. In a beverage storing, cooling and dispensing system of the type having a dispensing unit and a pre-cooler having an air atmosphere, and employing transit containers in the pre-cooler with beverage conduits connecting the containers to the dispensing unit, the improvement which comprises a cooling unit for chilling the atmosphere of the pre-cooler and the beverage conduits, said unit including a cold chamber having an air atmosphere and a refrigerant compressor insulated from one another, tubes of convolved form in substantially direct heat exchanging relation to the atmosphere of the cold chamber, conductor means extending between the ends of said tubes and the compressor to supply fresh refrigerant to the tubes and to return spent refrigerant to the compressor, said conductor means including an economizer located in the cold chamber and providing passages for carrying spent refrigerant in heat exchange relation to liquid refrigerant being supplied to the tubes, one portion of each beverage conduit substantially paralleling one of the convolved tubes and being in direct heat exchanging relation through solid material of relatively high heat conductivity to refrigerant therein, means for circulating air from the pre-cooler into and out of the cold room, the circulating air being directed over the convolved tubes in heat exchanging relation to refrigerant in the latter, and control means governing the supply and return of refrigerant to maintain the refrigerant in the convolved tubes within a predetermined beverage dispensing temperature range.

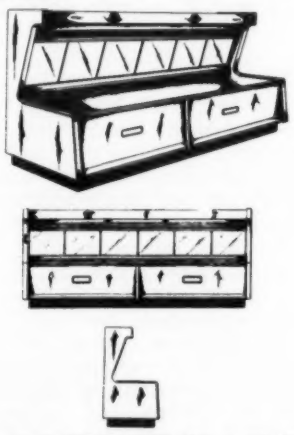
2,682,161. REFRIGERATED LIQUID DISPENSER. Orden E. Ihle, Glendale, Calif., and Thomas Norman, Chicago, Ill., assignors to Orden E. Ihle, doing business as Ihle Mfg. Co., Glendale, Calif.



1. In a refrigerated liquid dispenser, the combination of: a supporting structure providing a base for a receptacle; a receptacle adapted to seat on said base; refrigerating means adapted to be disposed in said receptacle and pivotally connected to said supporting structure; a rotatable agitator in said receptacle adjacent said refrigerating means; driving means for said agitator carried by said supporting structure, including a rotatable driving element below said receptacle and aligned with said agitator when said receptacle is on said base; and magnetic coupling means carried by said agitator and said driving element for operatively connecting said agitator to said driving element.

DESIGNS

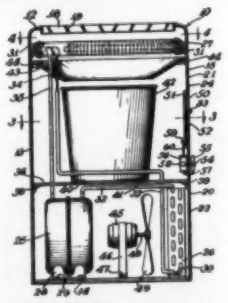
172,517. REFRIGERATED DISPLAY CASE. Sheldon Rutter, Evanston, Ill., assignor to Tyler Refrigeration Corp., Niles, Mich.



The ornamental design for a refrigerated display case, as shown and described.

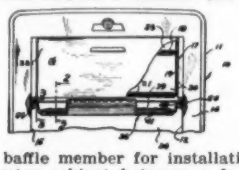
Week of July 6

2,682,753. DEHUMIDIFIER. Joseph A. Galazzi, Evansville, Ind., assignor to International Harvester Co.



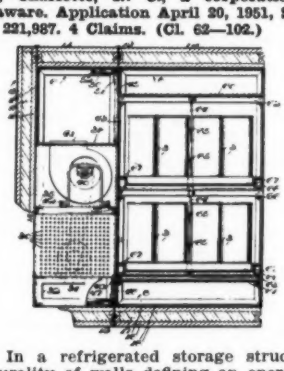
3. In a dehumidifier; an outer casing having an air inlet adjacent the top thereof and an air outlet adjacent the bottom thereof; a refrigerant evaporator located adjacent said inlet; a refrigerant condenser located adjacent said outlet; air-propelling means mounted substantially at the bottom of said casing for circulating room air through said inlet into contact with said evaporator, then into contact with said condenser and out said air outlet; a receptacle supported under said evaporator between said evaporator and said condenser into which the water that condenses from the room air will directly drain; a door provided in said casing through which said receptacle is adapted to be moved; said door being provided with a by-pass opening through which room air is drawn by said air-propelling means and passed directly into contact with said condenser and then forced out said air outlet; a damper slidably secured to said door which is adapted to open and close said by-pass opening; and means for regulating the position of said damper in response to the temperature of said room air.

2,682,754. FROZEN STORAGE TRAY AND MOUNTING. Floyd R. Eck, Des Plaines, Ill., assignor to Motor Products Corp., Detroit, Mich., a corporation of New York. Application July 16, 1951, Serial No. 237,019. 5 Claims. (Cl. 62—89.)



1. A baffle member for installation in a refrigerator cabinet between a food storage compartment and a cooling unit in the cabinet above the storage compartment, comprising a tray open at the top and having side, end and bottom walls, a supplemental bottom wall cooperating with the bottom wall of the tray to provide an enclosed space and having a marginal portion seated on the bottom wall of the tray, and a rib surrounding the enclosed space and projecting from one of said bottom walls into a groove in the other of said bottom walls, said rib and groove having adjacent surfaces integrally secured together in continuous sealing contact throughout the length of the rib.

2,682,755. OPERATING COMPARTMENT FOR REFRIGERATED STORAGE STRUCTURES. Elmer J. Mather, Chevy Chase, Md., assignor to Southern Dairies, Inc., Charlotte, N. C., a corporation of Delaware. Application April 20, 1951, Serial No. 221,987. 4 Claims. (Cl. 62—102.)



1. In a refrigerated storage structure, a plurality of walls defining an operating compartment comprising lower and upper chambers separated by an intervening space, each chamber having an opening

(Continued on next page)

Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing officer under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date.

DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices.

Invitations for Bids numbers will be followed by the letter "B." Requests for proposals or quotations will be indicated in this column by the letter "Q" or, if numbered, the number will be followed by the letter "Q."

Description	Quantity	Invitation No.	Opening Date
Fort Worth District, Corps of Engineers, U. S. Army, Fort Worth, Texas			
Airmen's Service Club, about 25200 SF, Unit Masonry Construction with Facing Tile, 135 Ton Heating and Air Conditioning Kathab System, Site Grading, Parking Area, Side Lks., Etc., Abilene Air Force Base, Abilene, Texas.	Job	(ENG-41-443-55-41B)	16 Dec 54
Cold Storage and Meat Cutting Building, Total of about 9700 sf., including unloading Docks, Covered Patform, Etc., Refrigerated Storage and Work Areas, Permanent Construction on A. B., Site Grading, Side Walks and Drainage, Abilene Air Force Base, Abilene, Texas.	Job	(ENG-41-443-55-36B)	24 Nov 54
General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pennsylvania			
Cooler Complete Self Contained Electrically Operated Unit Single Phase, 60 Cycle Operation, Size 10 for Hose use Type I, Fed. Spec. OO-C-5C.	380 ea.	(155-434-55-B)	15 Nov 54
Gage Pressure Dial Indicating Freon 12 Direct Stem Mounting Non Breakable Crystal U. S. Gauge Figure 500 St.	528 ea.	(155-428-55-B)	19 Nov 54
Gage Compound Pressure Vacuum Dial Indicator Freon 12 Commercial Type Direct Stem Mounting U. S. Gauge Figure 505 St.	1230 ea.	"	"
Gage Dial Glasses Heavy Beveled Mil. Spec. MIL-G-17801 (Ships).	600 ea.	"	"
Sockets Separable for Self Indicating (Navy Type) (Thermometers wrought Brass or Cast Bronze Mil. Spec. MIL-T-656A, Amend I.	3744 ea.	(155-435-55-B)	16 Nov 54
Thermometers Self Indicating Liquid in Glass (Navy Type) without sockets straight and 90° left hand types A and D and C Mil. Spec. MIL-T-656A, Amend I.	3744 ea.	"	"
Socket Separable for Class A Self Indicating Industrial Thermometer nickel copper alloy Mil. Spec. MIL-T-15164G (Navy).	320 ea.	"	"
Purchasing Branch, Fort Monroe, Virginia			
Installation of Electrical Power Furnishing and installing Air Conditioning Equipment in Building 5F-Ft. Monroe, in accordance with Specifications Schedules, and Drawings.	Job	(4-036-55-16B)	16 Nov 54
Contracting Officer, Redstone Arsenal, Huntsville, Alabama			
Unit, Air Handling, 16131 CFM, Trane Climate Choner Model 2-22A or equal.	1 ea.	(ORD-01-02155-230)	24 Nov 54
Unit, Compressor, Condenser 50 Ton Capacity, Trane Model 50 CT or equal.	2 ea.	"	"
Unit-Air Handling, 15402 CFM, Trane Climate Changer Model 2-22A or equal.	1 ea.	"	"
Tower, Cooling, 54 Ton Capacity Binks NR 3BBB,-14 -A or equal.	2 ea.	"	"
Pump, Close Coupled Centrifugal to deliver 175 GPM at 70 feet Aurora 2 B-5 or equal.	2 ea.	"	"
Corpse of Engineers, U. S. Army, Office of the District Engineer, Huntington District, 237 4th Ave., Huntington 18, W. Va.			
Construction of Central Heating Plant Addition, Distribution Lines, and Auxiliaries at Lockbourne Air Force Base, Ohio.	Job	(ENG-46-022-55-6)	30 Nov 54

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Business Service Center, General Services Administration, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Illinois			
Refrigerators: Fed. Spec. AA-R-211C VA-Spec. VB-S-8.	130 ea. 25 ea.	DCH-80325	10 Nov 54

U. S. DEPARTMENT OF STATE

Department of State, Division of Central Services, Washington, D. C.			
Refrigerators, electric, 7 cu. ft.	7 ea.	SD-55-5	17 Nov 54
Refrigerator, electric, 11 cu. ft.	1 ea.	SD-55-5	17 Nov 54

CONTRACTS AWARDED THROUGH NOV. 1

The Quartermaster Purchasing Division, Columbus General Depot, Columbus 15, Ohio

Spare parts for Universal Cooler Refrigerator Unit (DA33-031-QM-19060).—107 ea., $59,032.—Continental Motors Corp., 205 Market St., Muskegon, Mich.

Handy Way To Subscribe

Receive the greatest trade paper in the industry—AIR CONDITIONING & REFRIGERATION NEWS. Published every week. Brings you latest news and vital information on air conditioning, commercial and industrial refrigeration, home freezers, and household refrigeration; manufacturing, contracting, distributing, retailing, and servicing. Only $6.00 per year, 52 issues.

Fill in coupon and mail today

AIR CONDITIONING & REFRIGERATION NEWS
450 West Fort Street, Detroit 26, Michigan

Gentlemen: Send the NEWS for one year.

☐ $6 enclosed ☐ Bill me ☐ Bill the company

Name .....

Company .....

Street .....

City..... Zone..... State.....

11-8-54

LAUGH, LEARN, PROFIT! *Read*

"ONE FOOT IN THE DOOR"

by **GEORGE F. TAUBENECK**

The funniest and most stimulating book ever written on refrigeration and air conditioning merchandising. Every tested selling idea is illustrated with an hilarious story. Use the ideas *and the stories* in YOUR business.

***Price:* ONLY $3.00**

Order directly from **CONJURE HOUSE DIV., Business News Publishing Co.**
450 W. FORT ST.
DETROIT 26, MICH.

Please send a copy of *One Foot in the Door.*

☐ $3 enclosed ☐ Send bill 11-8-54

Name .....

Address .....

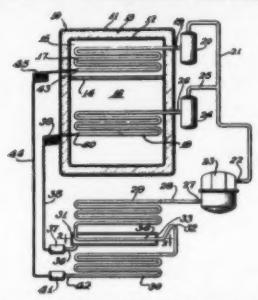
City ..... *State* .....

PATENTS

(Continued from preceding page)

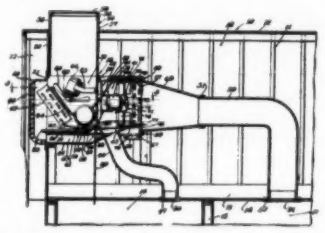
to the exterior in one wall and a door provided for each of said openings and each chamber having an aperture in another wall communicating with a storage space and provided with a closure, a refrigerating coil in one of said chambers, a blower in said space in communication with both chambers, and a motor for driving the blower mounted between said coil-containing chamber and the opening of said chamber, whereby the openings can be closed by the doors and the apertures opened to recirculate air over the coil and through the apertures in a closed circuit, and whereby the openings can be opened and the apertures closed by the closures to circulate exterior air over the motor thence over the coil for defrosting.

2,682,756. TWO TEMPERATURE REFRIGERATOR SYSTEM. Adna R. Clark and Charles E. Sulcek, Evansville, Ind., assignors to International Harvester Co.



1. In a refrigeration system, a pair of evaporators connected in parallel to the inlet of a compressor, a first condenser and a second condenser connected in series to the outlet of said compressor, said system being charged with a first refrigerant and a second refrigerant which has a lower boiling point than said first refrigerant, means for separating said first refrigerant from said second refrigerant after it has been liquefied by said first condenser, means for metering said liquified first refrigerant into one of said evaporators, and means for metering said second refrigerant into said other evaporator after it has been liquefied by said second condenser.

2,682,757. ATTIC MOUNTED AIR CONDITIONING UNIT. William P. Borgerd, Evansville, Ind., assignor to International Harvester Co.



1. In an air conditioning system for installation in an attic having an opening therein, an air conditioning unit comprising a high side compartment and a low side compartment, said unit of a size sufficient to permit insertion of said unit into said attic through said opening in said attic, a condenser and a blower therefor mounted in said high side compartment so that convection air currents and air currents produced by the condenser blower enter one side of said high side compartment and pass through said condenser and out another side of said high side compartment, an evaporator and a blower therefor mounted in said low side compartment so that air currents produced by the evaporator blower enter one side of said low side compartment and pass through said evaporator and out another side of said low side compartment, mounting means for substantially supporting said unit to one wall of said attic so that said one side of said high side compartment extends into said opening, a chimney positionable through the roof of said attic, means for mounting said chimney to be substantially supported by said one wall of said attic, said chimney connected to said another side of said high side compartment whereby convection air currents are produced which enter said one side of said high side compartment and pass from the top of said chimney, a duct mounted so that one end thereof is connected to said opening, the other end of said duct connected to said one side of said low side compartment, a second duct mounted so that one end thereof is connected to any rooms below said attic, the other end of said second duct connected to said one side of said low side compartment, a damper mounted to cooperate with said first and second ducts and operable to proportion the amount of air entering said one side of said low side compartment from said first and second ducts, a third duct mounted so that one end thereof is connected to any rooms below said attic, the other end of said third duct connected to said another side of said low side compartment.

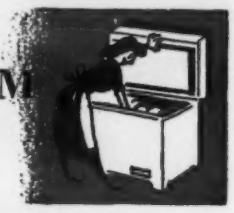
(To Be Continued)

Barber-Colman Opens Birmingham Branch

ROCKFORD, Ill. — The Automatic Control & Uni-Flo Div. of Barber-Colman Co. has opened a new branch office to serve its Birmingham, Ala. territory.

Located at 2807 Central Ave., Birmingham 9, the office is under the management of Stanley Simpson. The telephone number is 2-6264.

HOME & FARM FREEZERS



July Freezer Sales by NEMA Firms Total 61,145

Summary for July, August, and First Eight Months, 1954

Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet, where 50% or more of the net cabinet capacity is designed for the freezing and/or storage of frozen foods.

JULY (22 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 5 cu. ft.				
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 5 and 6 cu. ft.				
Chest Models	1,313	....	1	1,314
Upright Models	†	†	†	†
3. 7 and 8 cu. ft.				
Chest Models	2,584	146	199	2,929
Upright Models	†	†	†	†
4. 9 and 10 cu. ft.				
Chest Models	3,593	25	52	3,670
Upright Models	†718	†52	†28	†798
5. 11 and 12 cu. ft.				
Chest Models	5,356	63	118	5,537
Upright Models	5,226	90	138	5,454
6. 12.5 to 17.4 cu. ft.				
Chest Models	19,162	253	85	19,500
Upright Models	6,665	136	70	6,871
7. 17.5 to 21.4 cu. ft.				
Chest Models	7,666	262	47	7,975
Upright Models	4,857	54	51	4,962
8. 21.5 to 30.4 cu. ft.				
Chest Models	994	9	2	1,005
Upright Models	‡1,128	‡	‡2	‡1,130
9. 30.5 to 40.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
10. 40.5 to 50.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	....	....	....	....
11. 50.5 to 60.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
12. 60.5 cu. ft. and over				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
Total Chest Models ..	**40,668**	**758**	**504**	**41,930**
Total Upright Models	**18,594**	**332**	**289**	**19,215**
Total All Models	**59,262**	**1,090**	**793**	**61,145**

NEMA Freezer Sales for August Reported at 57,509

AUGUST (21 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 5 cu. ft.				
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 5 and 6 cu. ft.				
Chest Models	*1,643	*....	*19	*1,662
Upright Models	†	†	†	†
3. 7 and 8 cu. ft.				
Chest models	1,772	40	80	1,892
Upright Models	†	†	†	†
4. 9 and 10 cu. ft.				
Chest Models	4,100	2	103	4,205
Upright Models	†1,254	†....	†33	†1,287
5. 11 and 12 cu. ft.				
Chest Models	2,802	....	54	2,856
Upright Models	5,538	45	150	5,733
6. 12.5 to 17.4 cu. ft.				
Chest Models	13,388	265	252	13,905
Upright Models	5,621	59	67	5,747
7. 17.5 to 21.4 cu. ft.				
Chest Models	12,482	237	32	12,751
Upright Models	5,483	....	22	5,505
8. 21.5 to 30.4 cu. ft.				
Chest Models	1,109	4	5	1,118
Upright Models	‡833	‡....	‡15	‡848
9. 30.5 to 40.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
10. 40.5 to 50.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	....	....	....	....
11. 50.5 to 60.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
12. 60.5 cu. ft. and over				
Chest Models	....	....	....	....
Upright Models	....	....	....	....
Total Chest Models ..	**37,296**	**548**	**545**	**38,389**
Total Upright Models	**18,729**	**104**	**287**	**19,120**
Total All Models	**56,025**	**652**	**832**	**57,509**

*Chest models for Item 1 & 2 combined because of possible disclosure of individual company data.

†Upright models for Items 1-2-3-4 combined because of possible disclosure of individual company data.

‡Upright models for Items 8, 9, 11 & 12 combined because of possible disclosure of individual company data.

Note: Freezers of exactly the 4.5, 6.5, 8.5, and 10.5 cu. ft. sizes are included in the next higher size category.

471,223 Freezers Sold In 8 Mos. by NEMA Members

FIRST EIGHT MONTHS (21-23 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 5 cu. ft.				
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 5 and 6 cu. ft.				
Chest Models	*6,324	*9	*67	*6,400
Upright Models	†	†	†	†
3. 7 and 8 cu. ft.				
Chest Models	19,425	834	1,651	21,910
Upright Models	†	†	†	†
4. 9 and 10 cu. ft.				
Chest Models	25,250	220	840	26,310
Upright Models	†9,162	†377	†435	†9,974
5. 11 and 12 cu. ft.				
Chest Models	34,401	809	835	36,045
Upright Models	47,288	536	1,372	49,196
6. 12.5 to 17.4 cu. ft.				
Chest Models	136,976	2,506	1,355	140,837
Upright Models	55,470	1,076	663	57,209
7. 17.5 to 21.4 cu. ft.				
Chest Models	70,104	1,862	328	72,294
Upright Models	34,464	238	290	34,992
8. 21.5 to 30.4 cu. ft.				
Chest Models	8,508	171	98	8,777
Upright Models	‡7,247	‡2	‡30	‡7,279
9. 30.5 to 40.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
10. 40.5 to 50.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	....	....	....	....
11. 50.5 to 60.4 cu. ft.				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
12. 60.5 cu. ft. and over				
Chest Models	....	....	....	....
Upright Models	‡	‡	‡	‡
Total Chest Models ..	**300,988**	**6,411**	**5,174**	**312,573**
Total Upright Models	**153,631**	**2,229**	**2,790**	**158,650**
Total All Models	**454,619**	**8,640**	**7,964**	**471,223**

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Mfg. Corp. (Crosley & Bendix Divs.); Ben-Hur Mfg. Co.; Carrier Corp.; Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., American Motors Corp.; Maytag Co., The; Norge Div., Borg-Warner Corp.; Philco Corp., Major Appliance Div.; Quicfrez, Inc. (formerly Sanitary Refrigerator Co.); Revco, Inc.; Seeger Refrigerator Co.; Servel, Inc.; Victor Products Corp.; Westinghouse Electric Corp.; Wilson Refrigeration, Inc.; A. J. Lindemann & Hoverson Co. (out 2-1-54); Masterfreez Home Locker Mfg. Co. (out 8-1-54).

CHIEF ENGINEER WANTED

A leading well-established manufacturer in the commercial refrigeration field would like to contact an administrative engineer with outstanding creative ability.

The successful applicant must have a proven background of accomplishment. He will take charge of our complete product engineering program, supervising a staff of trained engineers. The salary is open. Reply in confidence to

BOX A5091, Air Conditioning & Refrigeration News

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS AVAILABLE

EXPERIENCED REFRIGERATION serviceman wanted by large Chicago contractor. Must be thoroughly familiar with all phases of commercial refrigeration and air conditioning service and installation. Inquiries will be handled in strictest confidence. Give details of experience to BOX A5086, Air Conditioning & Refrigeration News.

WANTED—MANUFACTURER'S representative. National manufacturer of complete line of air conditioning equipment, including room air conditioners, residential and commercial units in both water and air cooled, has several territories open on commission. Give experience, lines carried and type of accounts now being called on. BOX A5087, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVES. Eastern manufacturer of well known reach-in refrigerator line wants national representation. Choice territories are available in all parts of the country, particularly in the South and West. Excellent opportunity for the right man. Write to BOX A5088, Air Conditioning & Refrigeration News.

WHOLESALE REFRIGERATION parts counterman, salesman. Must be experienced—references required. Apply: ACE REFRIGERATION SUPPLIES, INC., 46 North West 36th Street, Miami, Florida.

EQUIPMENT WANTED

WANTED: 1 used Model 51FF Frick compressor for Freon air conditioning unit Model 4F4. Four cylinder V type, pistons and stroke 4¼" x 4¼". Can use casting only. Contact Mr. Townsend, ACME REFRIGERATION COMPANY, 808 Virginia Avenue, Indianapolis, Indiana. Collect.

EQUIPMENT FOR SALE

150 TON air conditioning equipment: 2—75 ton Westinghouse compressors also chiller condenser, pumps, controllers, etc. This equipment has never been used. Buy it at big savings from Kentucky warehouse. BOX A5084, Air Conditioning & Refrigeration News.

FOR SALE—3 used General Electric 20 horsepower water cooled Freon 12 condensing units, used on air conditioning duty, having operated approximately 2 to 3 days a week, 4 months of each year, approximately 10 years old. Two units in excellent operating condition, one compressor in need of overhaul. Units complete with motors and starters. Price $750.00 for the lot, FOB Chicago. Reply to BOX A5089, Air Conditioning & Refrigeration News.

FOR SALE: Brand new popular brand ¾ HP compressor with flywheel and service valves. $52.50—Model F 1 HP $62.50. Price includes free transportation to destination. Send for parts catalog listing other money saving values. WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.

BUSINESS OPPORTUNITIES

OWNER OF refrigeration, heating and air conditioning sales-service company needs a working partner capable of making outside contacts with prospective buyers and general contractors, and one who is willing to make an investment in the company. Present owner has operated this business for the past 20 years and would now like to incorporate, and allow some younger capable person to help operate this business. A knowledge of refrigeration, air conditioning, heating and service is preferred but not essential. This business is located near the Atlantic Coast, in the southern states. Give age, race, marital status, experience in selling, etc. BOX A5090, Air Conditioning & Refrigeration News.

XUM

COMBINED in this one Duplex cabinet are two appliances—home freezer and refrigerator. The dual-duty appliance line being introduced by Deepfreeze Home Appliances for 1955 has two separate zones, each with its own set of cooling tubes. Space-savers and conveniences are provided throughout this two-door model (A2-D). Freezer door has dispensing rack for 15 packages and rack for 10 juice cans, while the freezer interior is equipped with sliding shelf and sliding basket, to give the space maximum useability and accessibility.

Deepfreeze Lines for 1955--

(Concluded from Page 1, Col. 5)

frigerators has its own set of cooling tubes, Deepfreeze pointed out. An "Electronic Sentinel" device automatically maintains correct and constant temperatures in both sections, the company said.

Deepfreeze said the Duplex "provides convenient kitchen storage for up to 147 lbs. of frozen food, and still holds about the same amount of refrigerator food as a conventional 11-cu. ft. refrigerator."

Steady zero-or-lower temperatures are maintained in the freezer zone and temperatures in the refrigerator zone "are held properly at about 40°," it was stated. "Isolated from the 'thirsty' freezing section, the refrigerator has higher humidity than standard boxes."

EACH ZONE HAS 10-POINT TEMP. CONTROL

Each zone has a separate 10-point temperature control. With each cooling cycle, refrigerator frost is melted and evaporated automatically.

The Duplex line comprises a deluxe model (A-2D) with two outer doors, and two models (A-1D and B-1D) with full-length outer doors and freezer doors inside. Freezer capacity is 4.2 cu. ft. in the deluxe model and 3.8 cu. ft. in the other two.

"Both zones of the double-duty appliances have exclusive new evaporator cooling element designs," Deepfreeze said. "Upright in the middle of the top refrigerator shelf is a narrow, double-plate evaporator so compact that it frees space for food storage. The evaporator houses a soft glow interior light.

"The appliance's second evaporator is found at the top of the freezer. A C-shaped plate lined with freezing tubes provides wrap-around cold for the freezer section's top shelf where ice cubes may be kept and where four ½-gal. ice cream cartons also can be stored.

"The refrigerator area gains further in storage capacity because its design permits placing shelves about 4 in. apart, closer than customary, to eliminate waste of space."

In the two-door model's refrigerator zone there are two roll-out shelves, a removable half-shelf, and a fixed shelf, all of copper-tone anodized aluminum. A polystyrene meat container with see-through cover holds nearly 10 lbs. Lining a deep door are "Dispensador" bottle shelf, egg rack, removable crisper, butter compartment, and cheese keeper.

The freezer zone has a plastic-coated slide-out basket, slide-out shelf, copper anodized aluminum ice trays, and special door racks that hold 10 cans of fruit juice and 15 standard frozen food packages. Juice cans are stored side by side so that all are equally easy to select. Packages are stacked in three vertical dispensing racks arranged so that when a bottom package is removed, another falls into place.

Both of the single-door Duplexes have their freezers closed off by an inner door of polystyrene decorated in coral and cream. One model (A-1D) has anodized aluminum shelves, removable half-shelf, roll-out crisper, door bottle shelf, and door egg rack in the refrigerator and copper anodized aluminum ice trays, slide-out basket and door juice racks, and door package racks in the freezer.

The other model (B-1D) comes with meat container, wire shelves, removable half-shelf, door bottle shelf and door egg rack in the refrigerator, and plastic ice trays and removable shelf in the freezer.

All Duplexes have titanium porcelain liners and polystyrene freezer liners.

Each model is equipped with a low-wattage door heater which can be turned on in highly humid weather to prevent condensation.

All the conventional-type refrigerators have across-the-top freezing compartments and door shelves. All-color interiors in two shades of green are presented in all refrigerators, with accents of gold, chrome, or white.

The 11.5-cu. ft. model (A-127) has frozen storage drawer, swing-out covered meat compartment, one slide-out shelf and two other shelves, two crispers, and specialized door storage for eggs, butter, and a pair of Handy Jugs. Resembling this model in most features, except for capacity, is a 9.6-cu. ft. refrigerator (G-107). The line also includes another unit of 9.6-cu. ft. capacity, as well as one rated at 7 cu. ft.

CHEST FREEZERS

Chest freezers have an array of special baskets, which extend almost solidly across the top in larger models. These conveniences include a "Tilt-Tray" which swings up to lock against the freezer lid, two-piece nested basket, pastry rack, and utility basket.

Upright freezers are equipped with "Dispensador" fruit juice racks and package racks in the doors and slide-out baskets and shelves in cabinets.

The new uprights have capacities of 12, 16.1, 18.6, and 18.9 cu. ft.

Designated Imperial models C-87, C-147, C-187, and C-247, the chest freezers has capacities of 7.7, 13.6, 17.8, and 23.7 cu. ft. The two largest sizes each have two compartments which function as two freezers, each with its own freezing tubes and lid.

The Tilt-Tray, which holds almost two dozen standard frozen food packages, may be secured to the under side of the lid when open.

When end handles of the two-part nested basket are grasped, the whole unit comes out; when side handles are held, only the top section is removed. The double baskets holds 24 lbs. combined.

HANDY TILT-TRAY of 1955 Deepfreeze chest freezers swings up to lock against the lid or may be removed. This tray helps keep food sorted and makes it easier to reach foods stored below.

Many sizes and shapes of pies, cakes, and other pastries may be stored in the lift-out pastry rack. Above a fixed shelf are two movable shelves that can fit in three different positions, at about 2-in. intervals. A fourth basket for general utility storage is included in the larger chests.

Displaying leading features of the new uprights and representing a new intermediate size in the line is the model (CU-167) of 16.1-cu. ft. capacity.

In four special dispensing racks, its door holds 20 juice cans, placed sidewise and stacked. When the bottom can is taken out, another automatically replaces it. Also in the door are four package shelves, which hold a total of 44 standard frozen food packages. Set upright and side by side like books on a shelf, the packages can be selected individually.

Inside the cabinet this model has two adjustable, sliding shelves and a 60-lb. capacity sliding basket. Three fixed shelves are lined with freezer tubing. From the top shelf, tubing extends up and over to form a C-shaped fast-freezing section "of exclusive design."

In one of the three choices of position, the 1955 air conditioner may be placed flush with draperies so that they may be drawn past the unit. Or the unit may be installed so that the back is flush with the building line, as some building codes require. Or a midway position may be chosen, with the cabinet projecting inside about 15 in.

The pushbutton controls are located behind a control door across the front at the top. The new electrostatic filter traps dust and pollen and is readily cleaned by washing under a faucet.

Five units make up the air conditioner line—"Imperial," or deluxe, models in 1½-ton, 1-ton, and ¾-ton sizes, and "Custom," or standard, models in 1-ton and ¾-ton sizes.

Capacities for the units are: 1½-ton, room up to 920 sq. ft.; 1-ton, up to 615 sq. ft.; ¾-ton, up to 475 sq. ft.

Acme Line--

(Concluded from Page 1, Col. 2)

and advertising, announced a new and amplified program for merchandising the concern's lines of air conditioning and refrigeration equipment.

Acme's gross sales of this equipment totaled over $8 million for the past fiscal year, and an increase of 25% is anticipated for 1955, it was reported.

During the sales meetings, large displays showing construction details of the cooling towers and the Acme "Dry-Ex" liquid chiller were used by company engineers to point up the product and application sessions for the representatives.

New markets for the firm's "Flow-Cold" and "Flow-Therm" lines of packaged liquid chillers were discussed in detail.

"Outstanding among cities in the west for its many completely air conditioned buildings, Las Vegas was chosen by Acme for the last of the three meetings as a particularly representative locality for the type of central air conditioning systems that use Acme equipment extensively," the company said.

"The Flamingo's own system includes an Acme Dry-Ex liquid chiller, a major component that contributes to the year-round comfort of the famous hotel's guests.

"Architects have also specified Acme equipment for other outstanding Las Vegas buildings.

for reduced costs...improved performance...

SPECIFY VERTICAL FREEZER SHELVING

OF REYNOLDS ROLL BONDED ALUMINUM SHEET

Here's how Reynolds roll bonded aluminum sheet reduces costs. Metal ordinarily used for tubing, accumulators and receivers is eliminated . . . passageways are inside sheet . . . no tubes to bend . . . welding is minimized . . . many connecting and assembly operations are eliminated . . . additional length of passageways adds nothing to costs . . . cleaning time and expense are reduced. There are no deep crevices where tubing meets sheet. There is no brazing flux. Roll bonded tubing contours smoothly into the sheet.

Here's how Reynolds roll bonded aluminum sheet improves performance. Practically unlimited circuiting possibilities . . . no problem of lost conductivity . . . expansion, radius and bending problems are eliminated . . . no brazing or flux contamination . . . passageways may be flat, oval or round—can be smaller and can be placed closer together—act as stiffening ribs and contribute to overall sturdiness.

For your vertical freezer shelving—or for freezer liner panels and refrigerator evaporators—look into strong, compact Reynolds roll bonded aluminum sheet made of two sheets of aluminum metallurgically bonded together. For details, contact your nearest Reynolds office listed under "Aluminum" in your classified telephone directory. Or write *Reynolds Aluminum Fabricating Service, 2053 South Ninth Street, Louisville 1, Kentucky.*

Write for your free copy of the 20-page brochure, "Aluminum Appliance Parts".

See "Mister Peepers", starring Wally Cox, Sundays NBC-TV

REYNOLDS ALUMINUM

FABRICATING SERVICE

BLANKING • EMBOSSING • STAMPING • DRAWING • RIVETING • FORMING • ROLL SHAPING • TUBE BENDING • WELDING • BRAZING • FINISHING